"I've got wings!"

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K9
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Foreword

FOR CENTURIES man looked longingly at the skies. Finally, some forty years ago, at Kill Devil Hill, near Kitty Hawk, North Carolina, Orville and Wilbur Wright successfully completed the first mechanical flight.

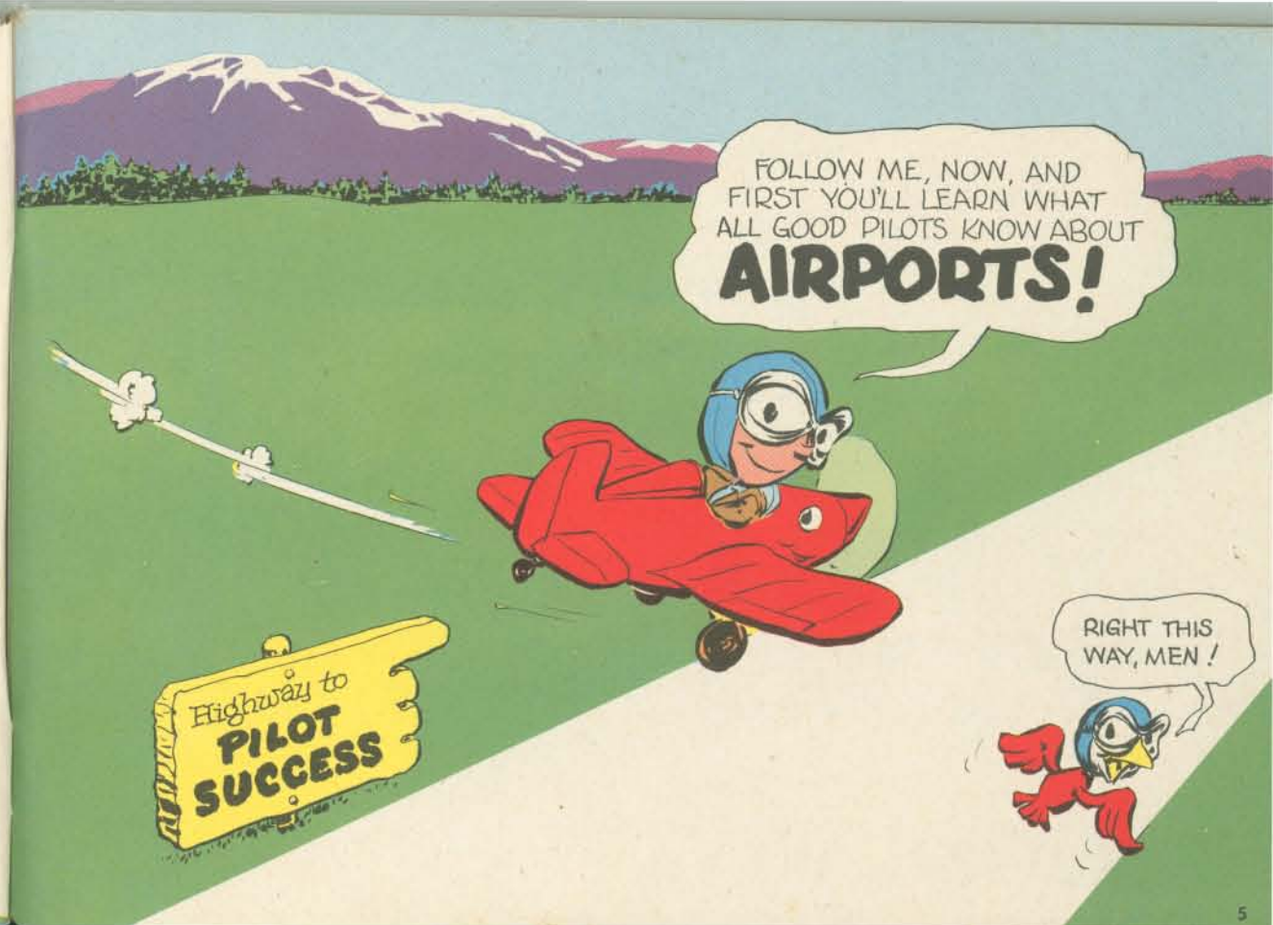
Today, thanks to the Wright brothers, man can fly. The Air Age is here! Thousands of military and commercial airplanes are speeding across the country on well-defined, carefully regulated airways. Air routes are reaching across every continent, into every corner of the world. No place on the globe is now more than 60 flying hours from your nearest air field.

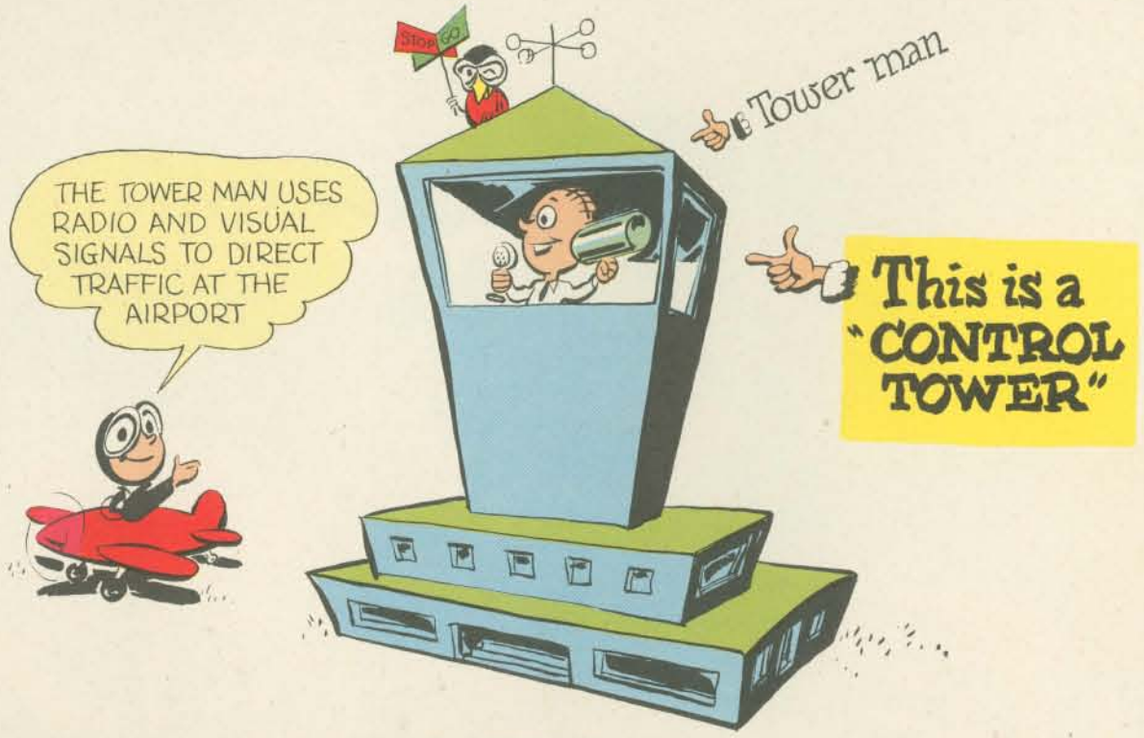
As aviation comes of age air traffic is becoming more and more of a problem to pilots. Uniform rules and regulations are necessary to insure maximum safety in flight.

To the young men of America whose hearts are in the sky, we present this booklet. Its pictures teach the rules that every pilot must know before he can earn his wings. Learn what this booklet has to tell and you will have taken a long step toward the day when you can say, "I've Got Wings."

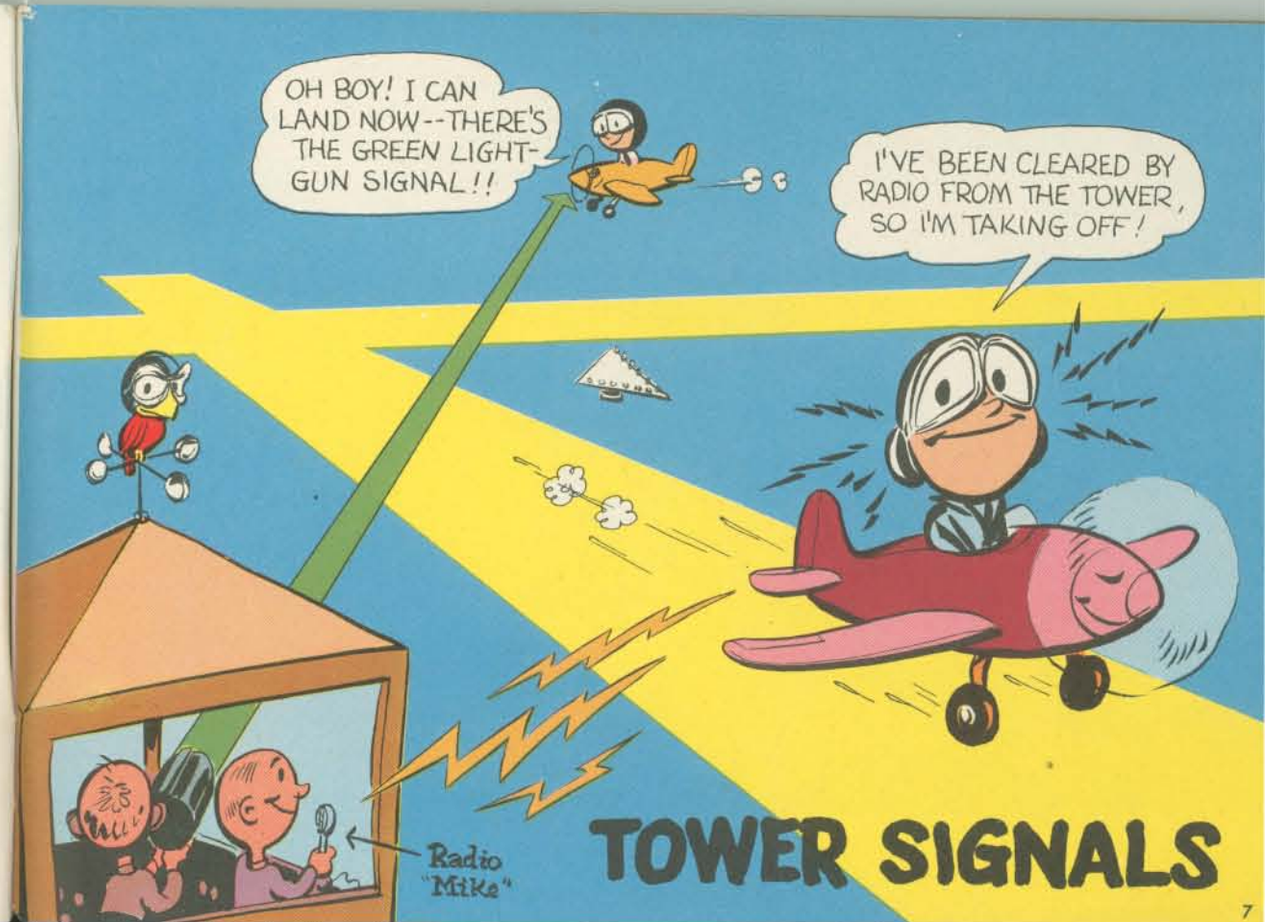
★ ★ ★

Art ideas for this booklet were contributed by personnel of the Air Traffic Control Division of the Civil Aeronautics Administration. "I've Got Wings" was prepared and published by the U. S. Army Air Forces, Flight Control Command.

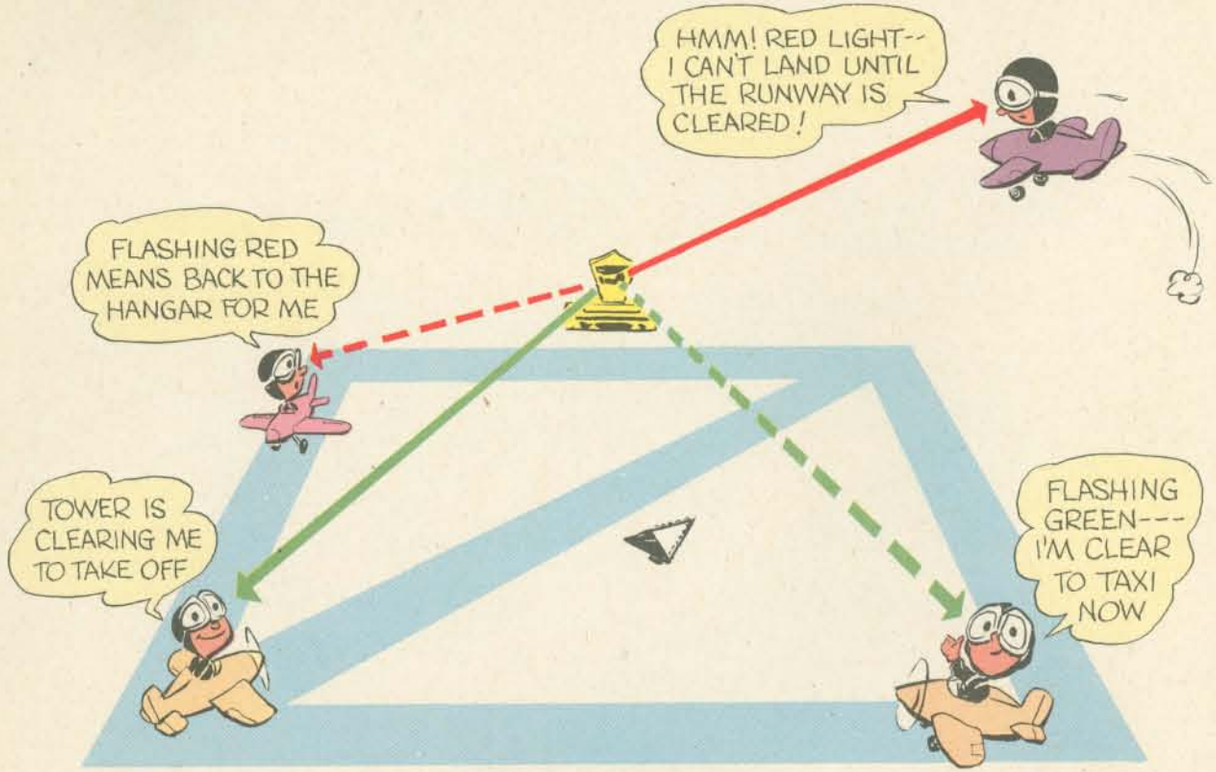




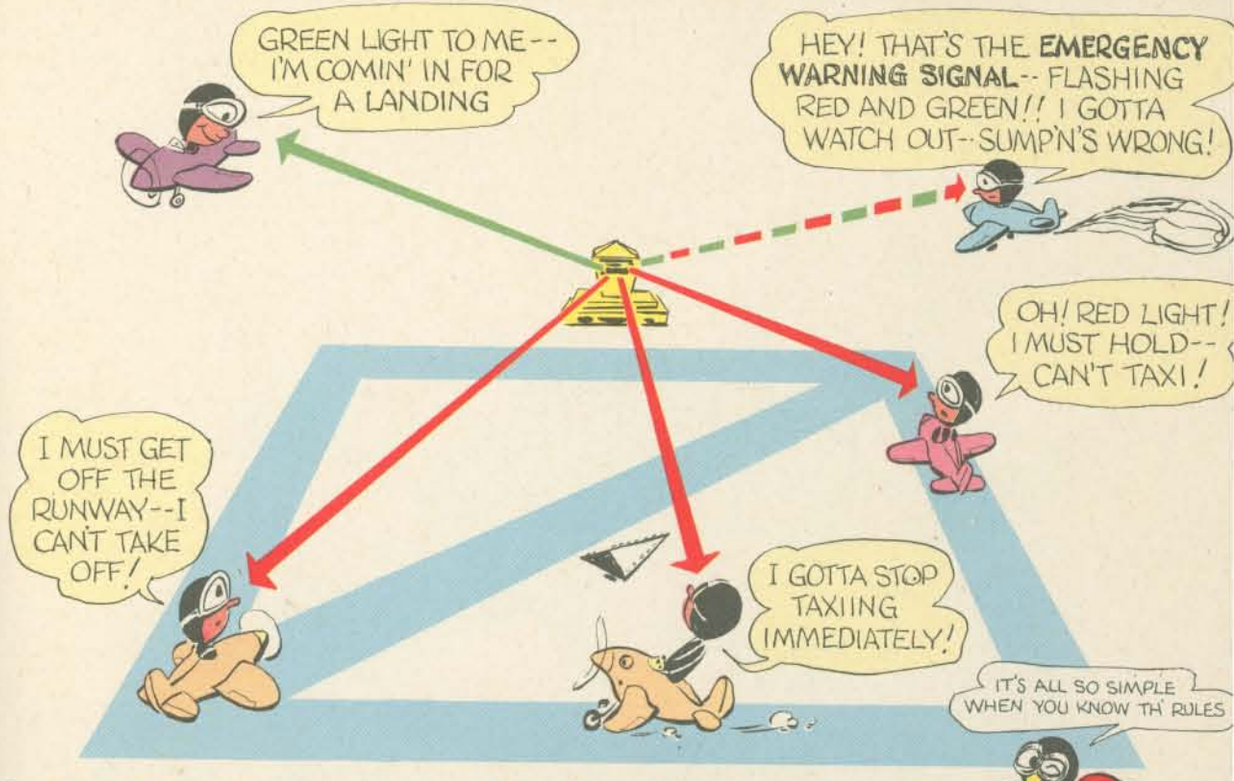
CONTROL TOWER



TOWER SIGNALS

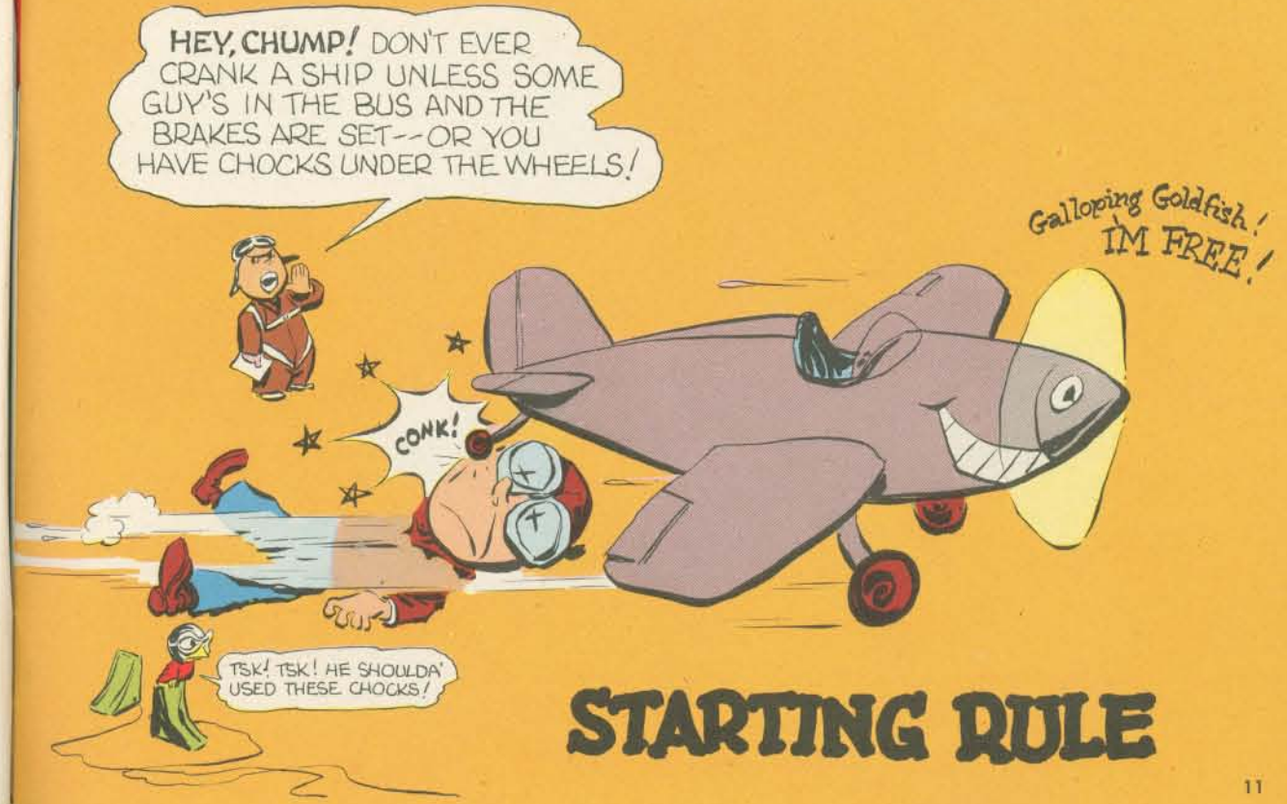


CONTROL TOWER

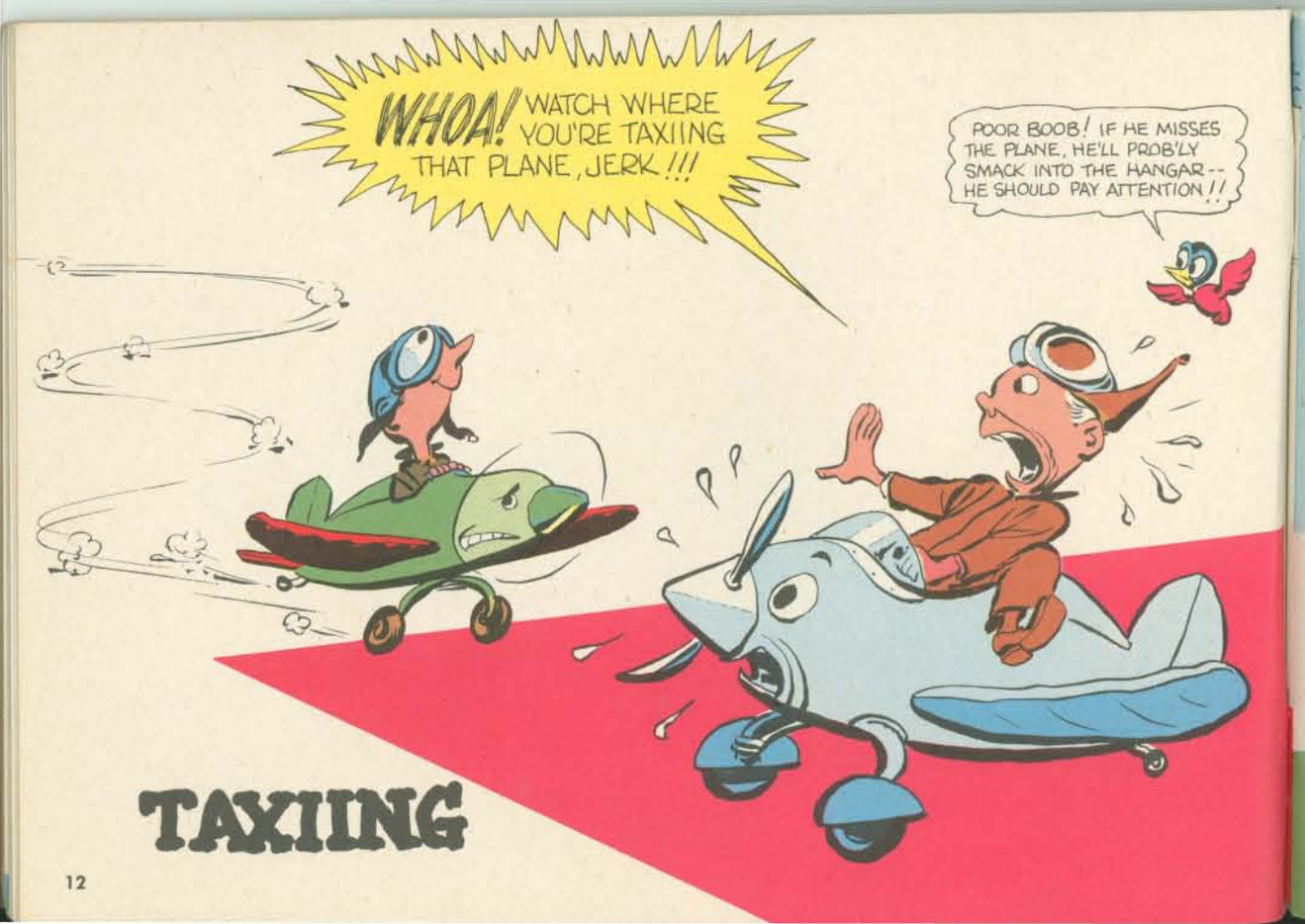


LIGHT GUN SIGNALS

FUEL SUPPLY

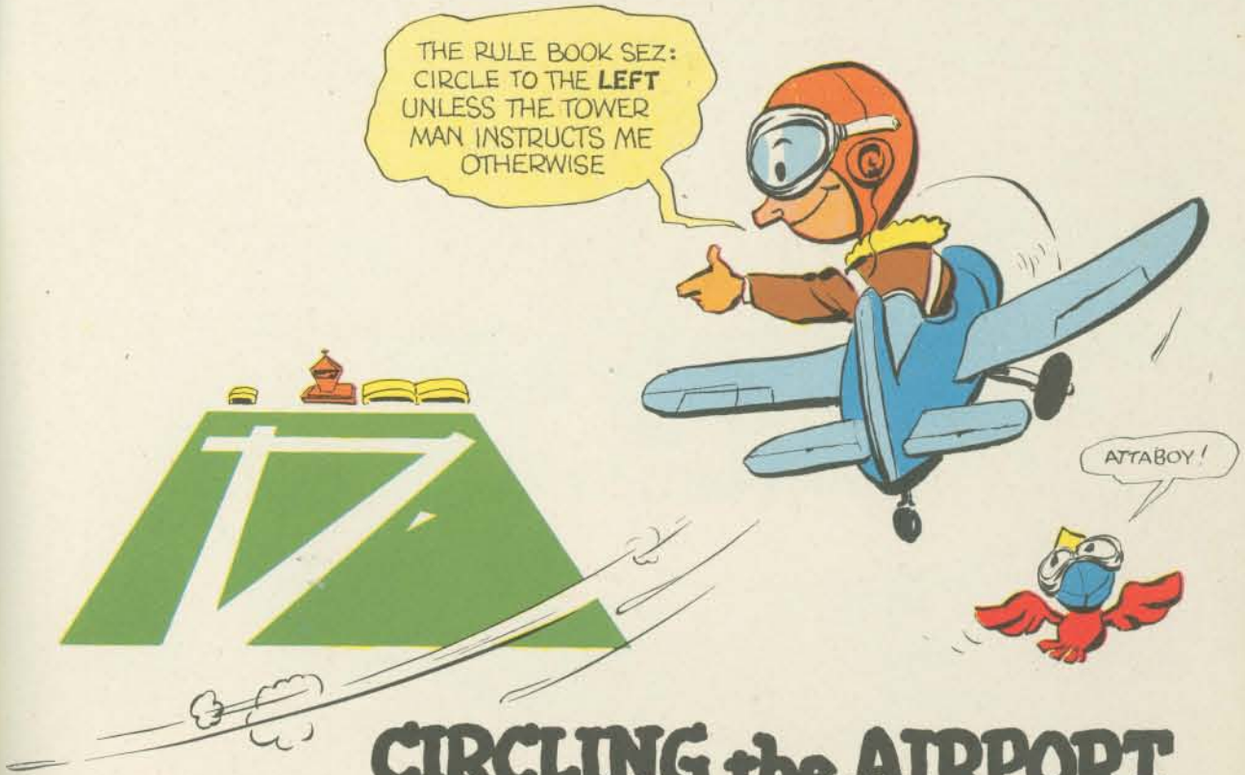


STARTING RULE

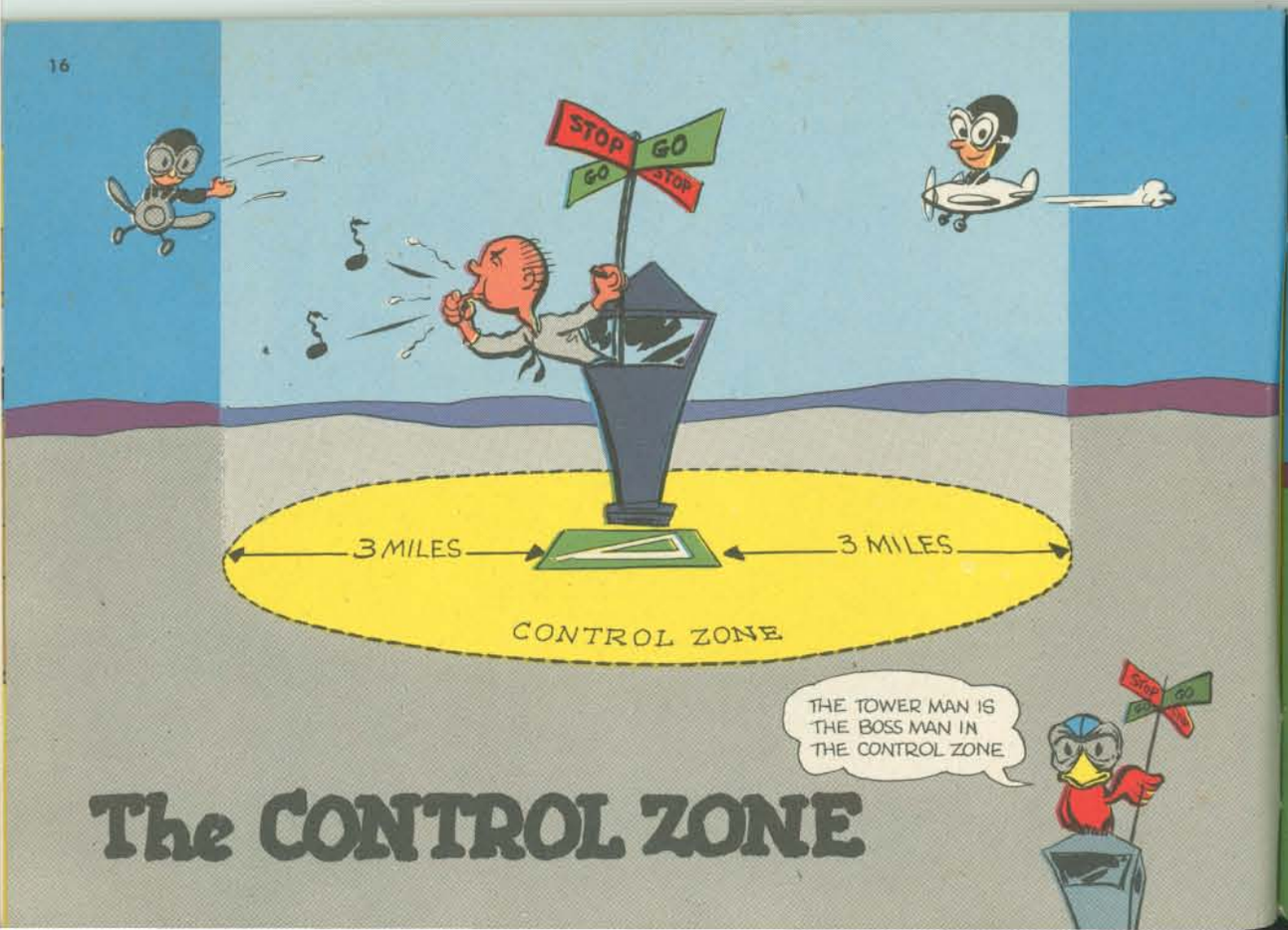

WHOA! WATCH WHERE YOU'RE TAXIING THAT PLANE, JERK!!!
POOR BOOB! IF HE MISSES THE PLANE, HE'LL PROB'LY SMACK INTO THE HANGAR-- HE SHOULD PAY ATTENTION!!
TAXIING

I HATE TO BE CRITICAL, BUT YOU'RE VIOLATING A TAKEOFF RULE: ALWAYS BE SURE YOU HAVE A CLEAR RUNWAY!
I WONDER IF MYRTLE PAID MY INSURANCE FER LAST MONTH---?
SMAK!
SOME GUYS NEVER LEARN!
The TAKEOFF

TURN AFTER TAKEOFF

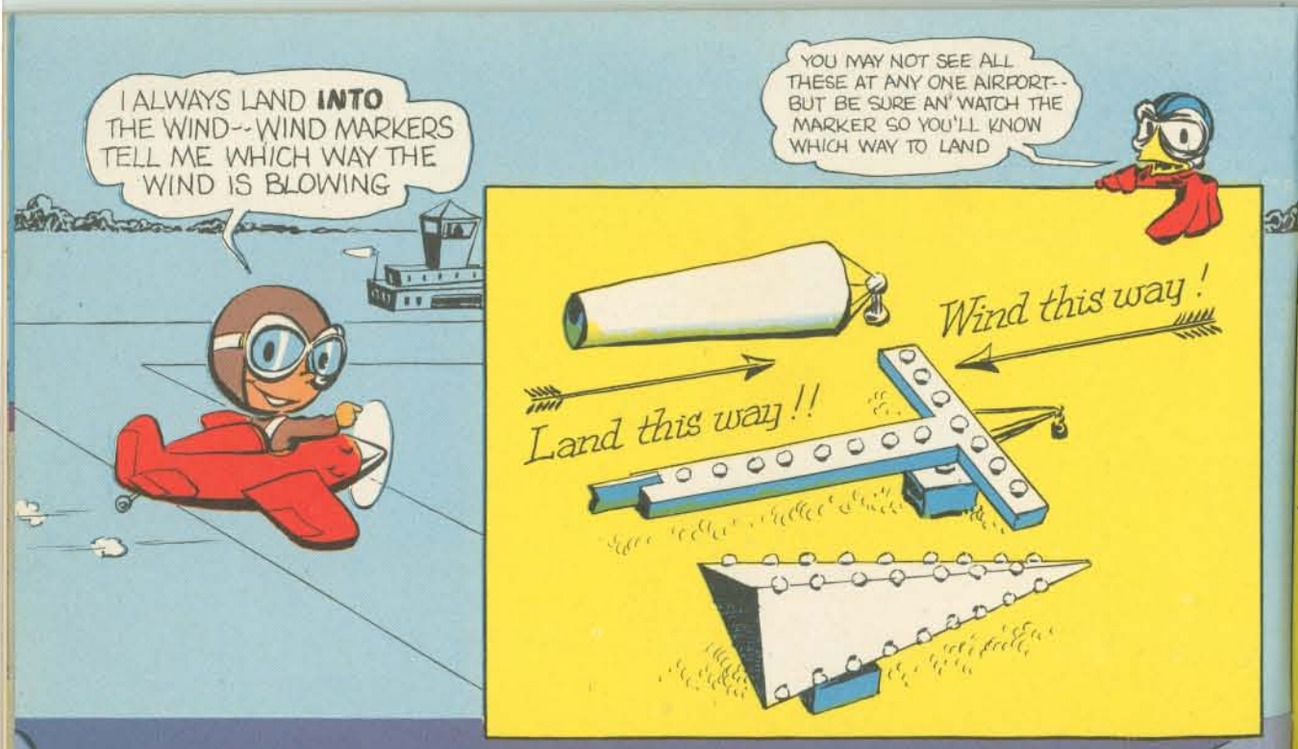


CIRCLING the AIRPORT



The CONTROL ZONE

CONTROL ZONE *Minimums*



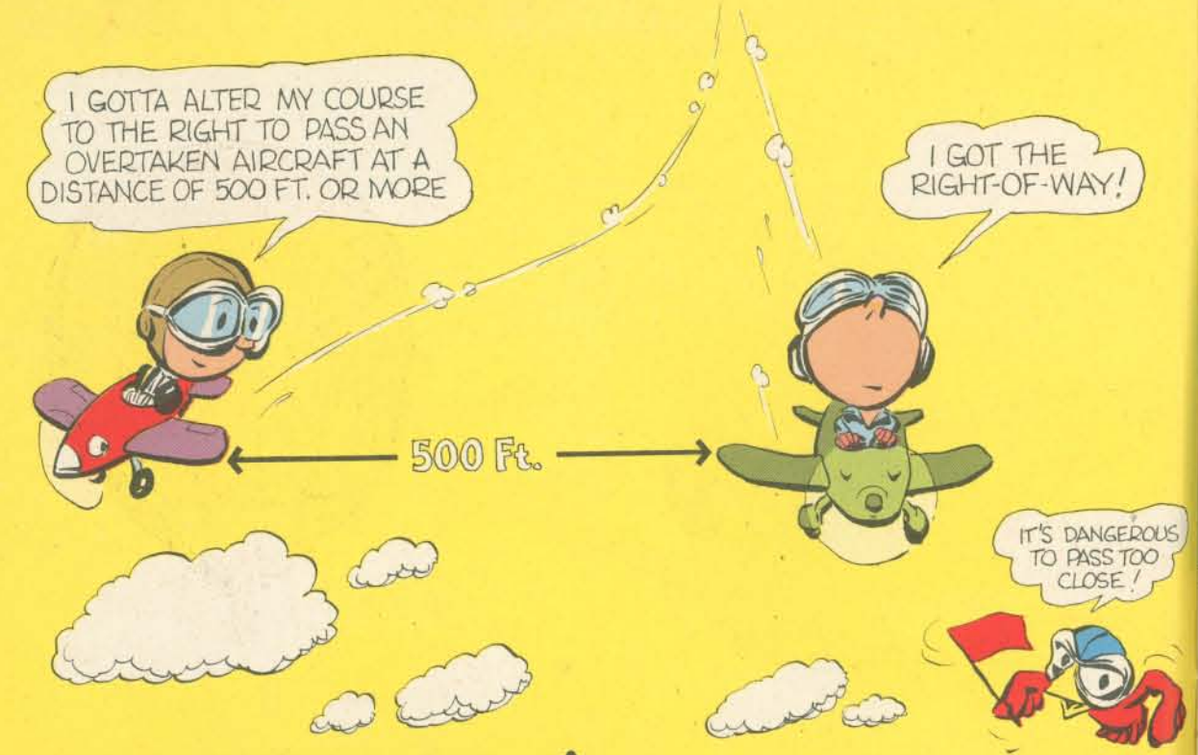
AIRPORT WIND MARKERS

LAND *INTO* the *WIND*

APPROACH LEG

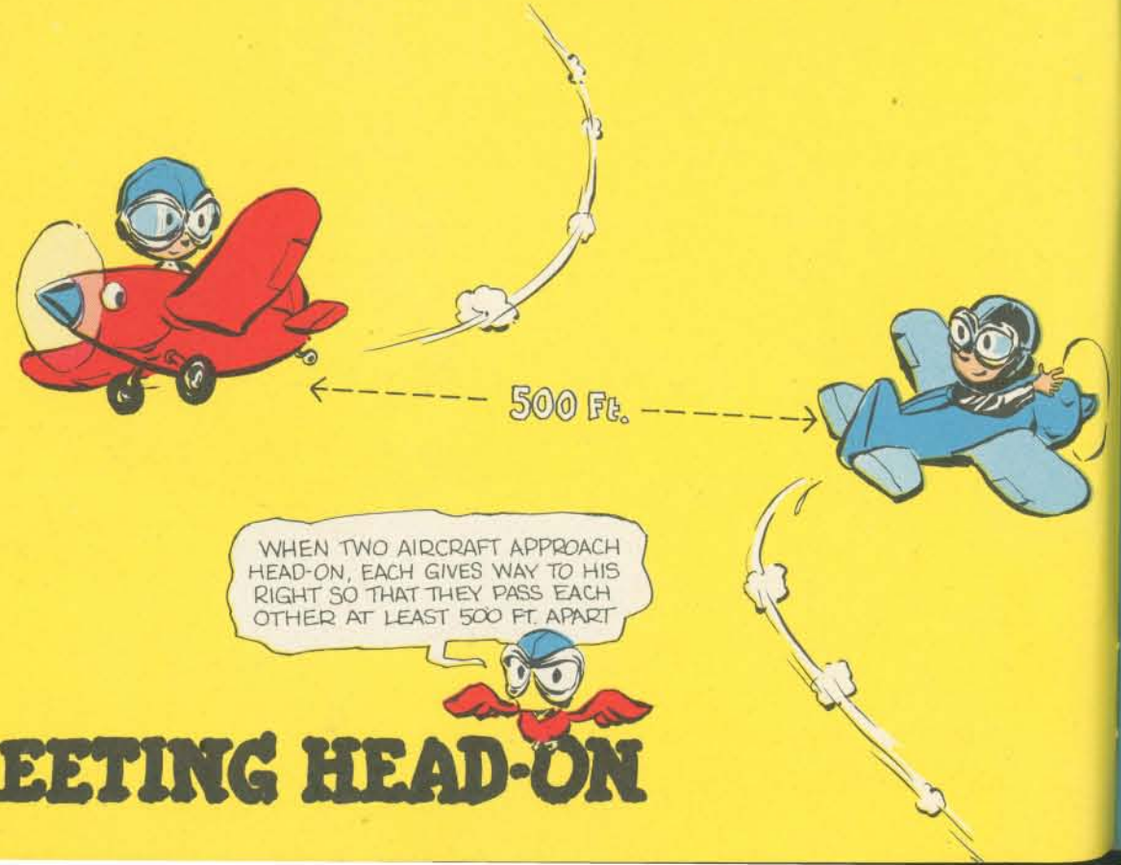
TOWER INSTRUCTIONS

AIRPLANES AND ROTORPLANES -- THAT'S US! WE HAVE RIGHT-OF-WAY No. 4
THE AIRCRAFT THAT CAN CONTROL ITS MOVEMENTS THE MOST GIVES WAY TO THE ONE THAT CAN CONTROL ITSELF THE LEAST -- DO YA KETCH ON?
I'M FLYIN' AN AIRSHIP -- THAT GIVES ME THE No. 3 RIGHT-OF-WAY
AIRCRAFT RIGHT-OF-WAY
BEING IN A GLIDER MEANS I HAVE No. 2 RIGHT-OF-WAY
A FIXED OR A FREE BALLOON GETS RIGHT-OF-WAY OVER EVERYTHING -- NUMBER 1!



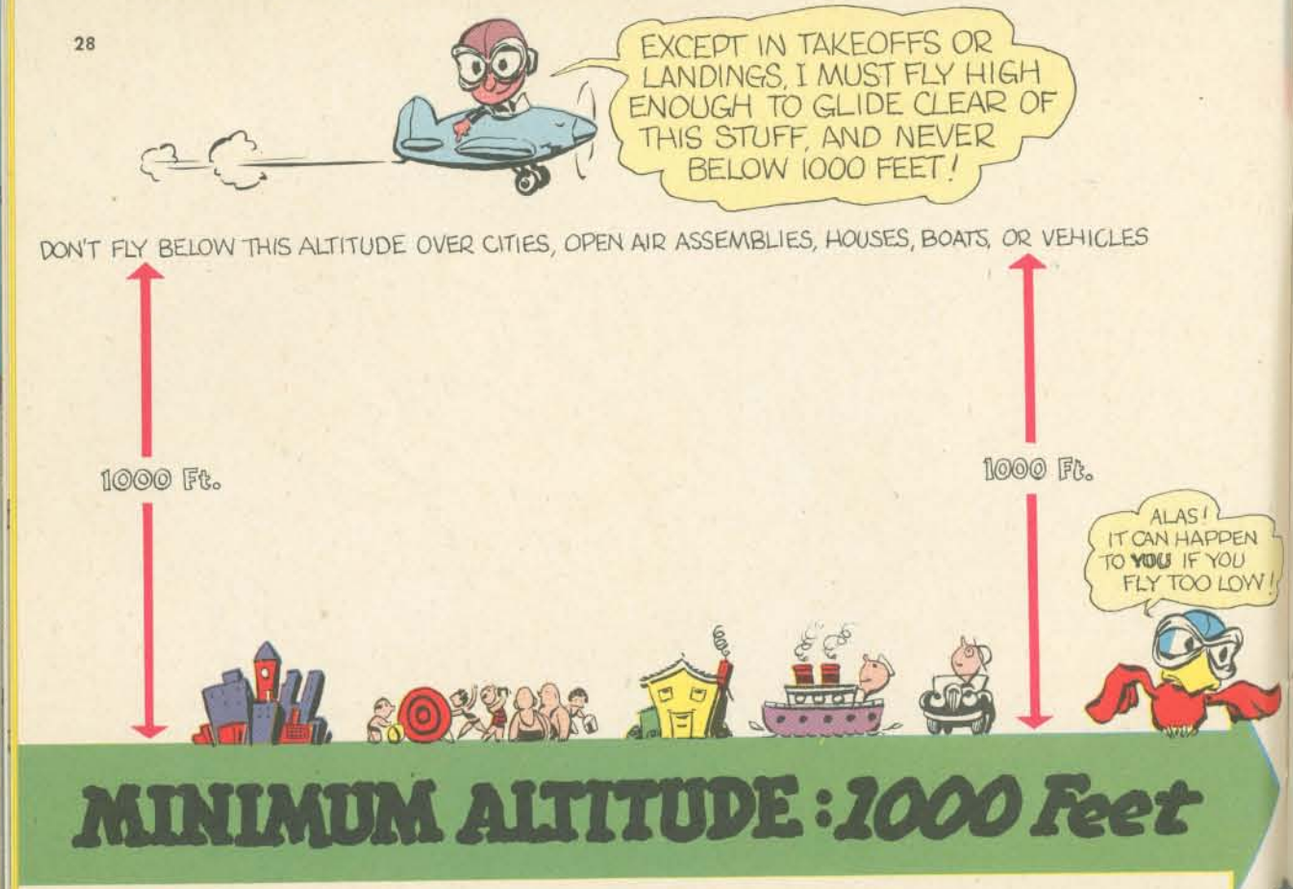
OVERTAKING *Right-of-way*

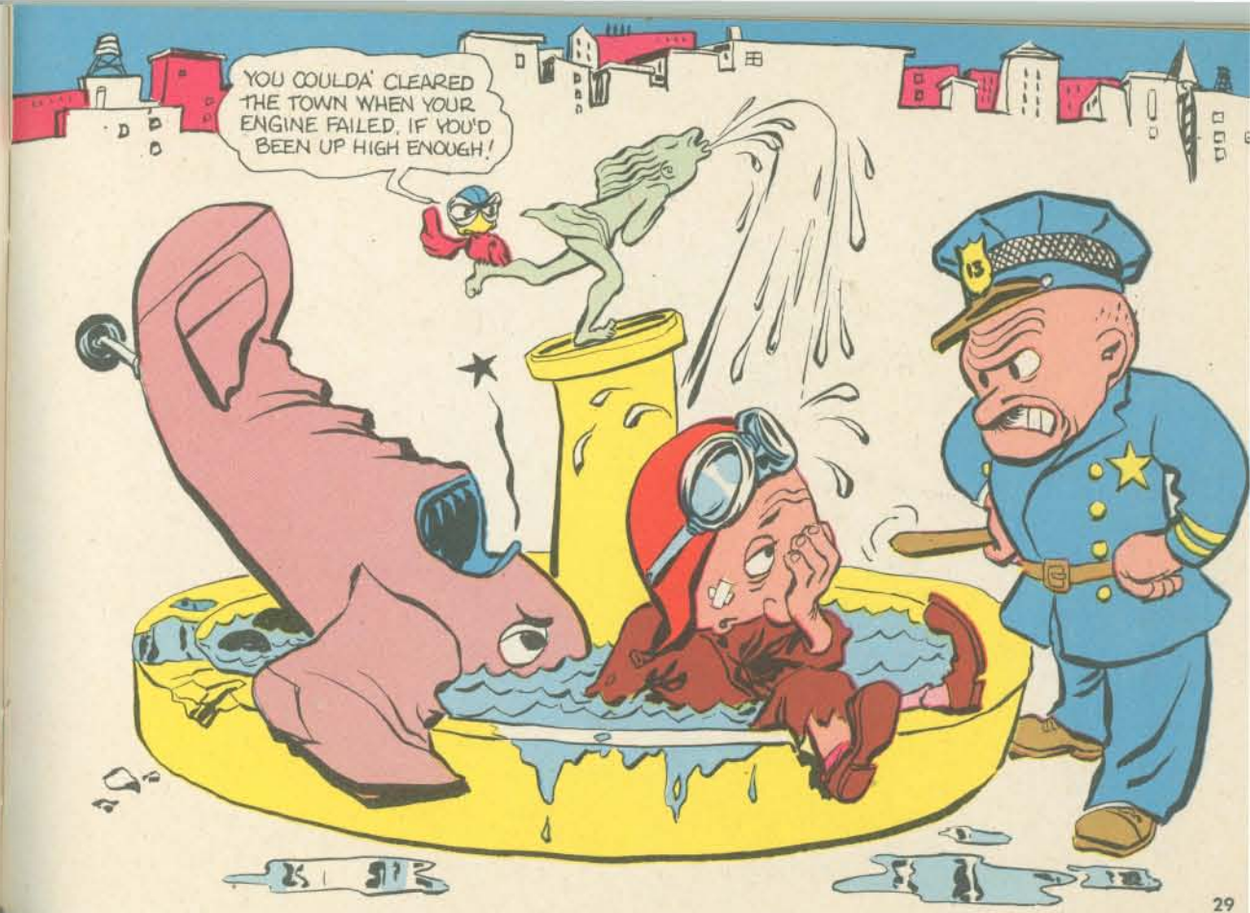
CROSSING *Right-of-way*

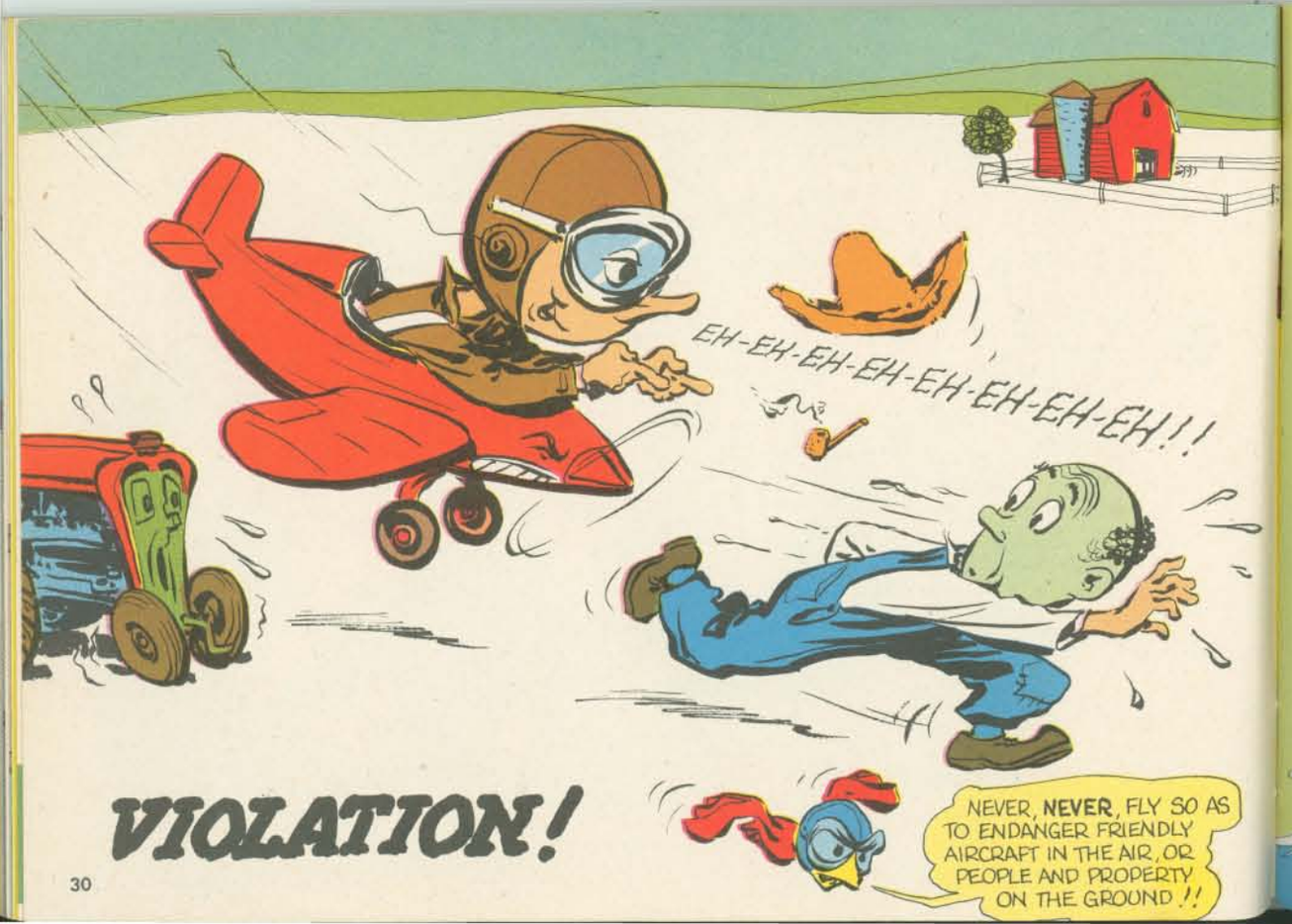


MEETING HEAD-ON

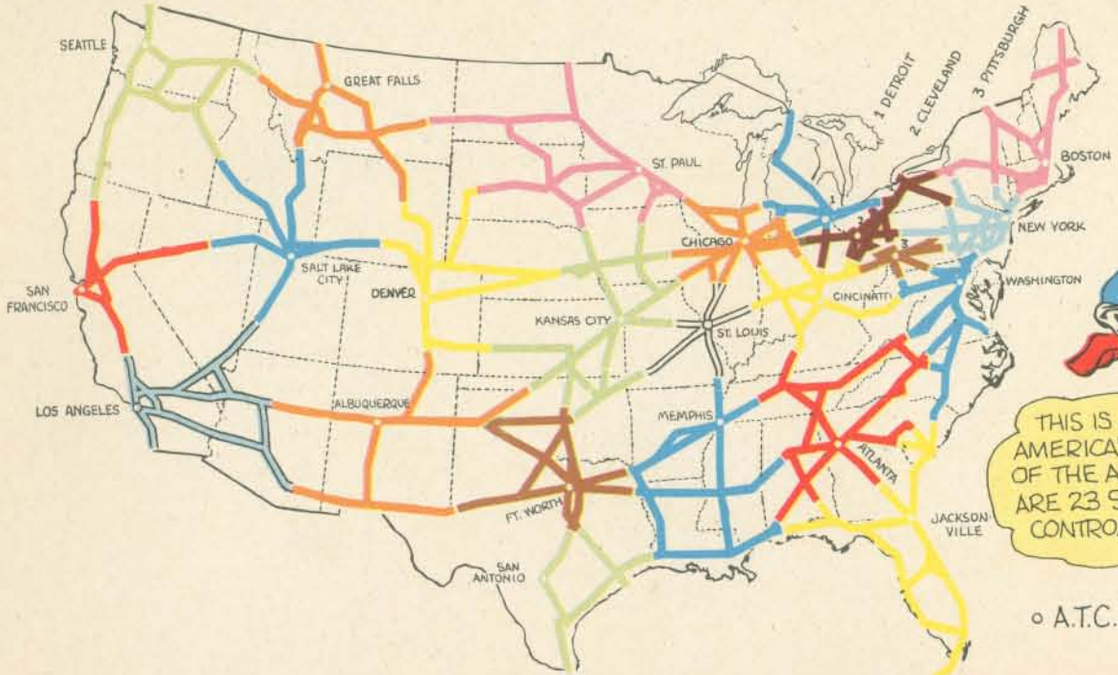
EMERGENCY LANDINGS


EXCEPT IN TAKEOFFS OR LANDINGS, I MUST FLY HIGH ENOUGH TO GLIDE CLEAR OF THIS STUFF, AND NEVER BELOW 1000 FEET!
DON'T FLY BELOW THIS ALTITUDE OVER CITIES, OPEN AIR ASSEMBLIES, HOUSES, BOATS, OR VEHICLES
1000 Ft.
1000 Ft.
ALAS! IT CAN HAPPEN TO YOU IF YOU FLY TOO LOW!
MINIMUM ALTITUDE: 1000 Feet


YOU COULDA' CLEARED THE TOWN WHEN YOUR ENGINE FAILED, IF YOU'D BEEN UP HIGH ENOUGH!


EH-EH-EH-EH-EH-EH-EH-EH!!!
VIOLATION!
NEVER, NEVER, FLY SO AS TO ENDANGER FRIENDLY AIRCRAFT IN THE AIR, OR PEOPLE AND PROPERTY ON THE GROUND!!

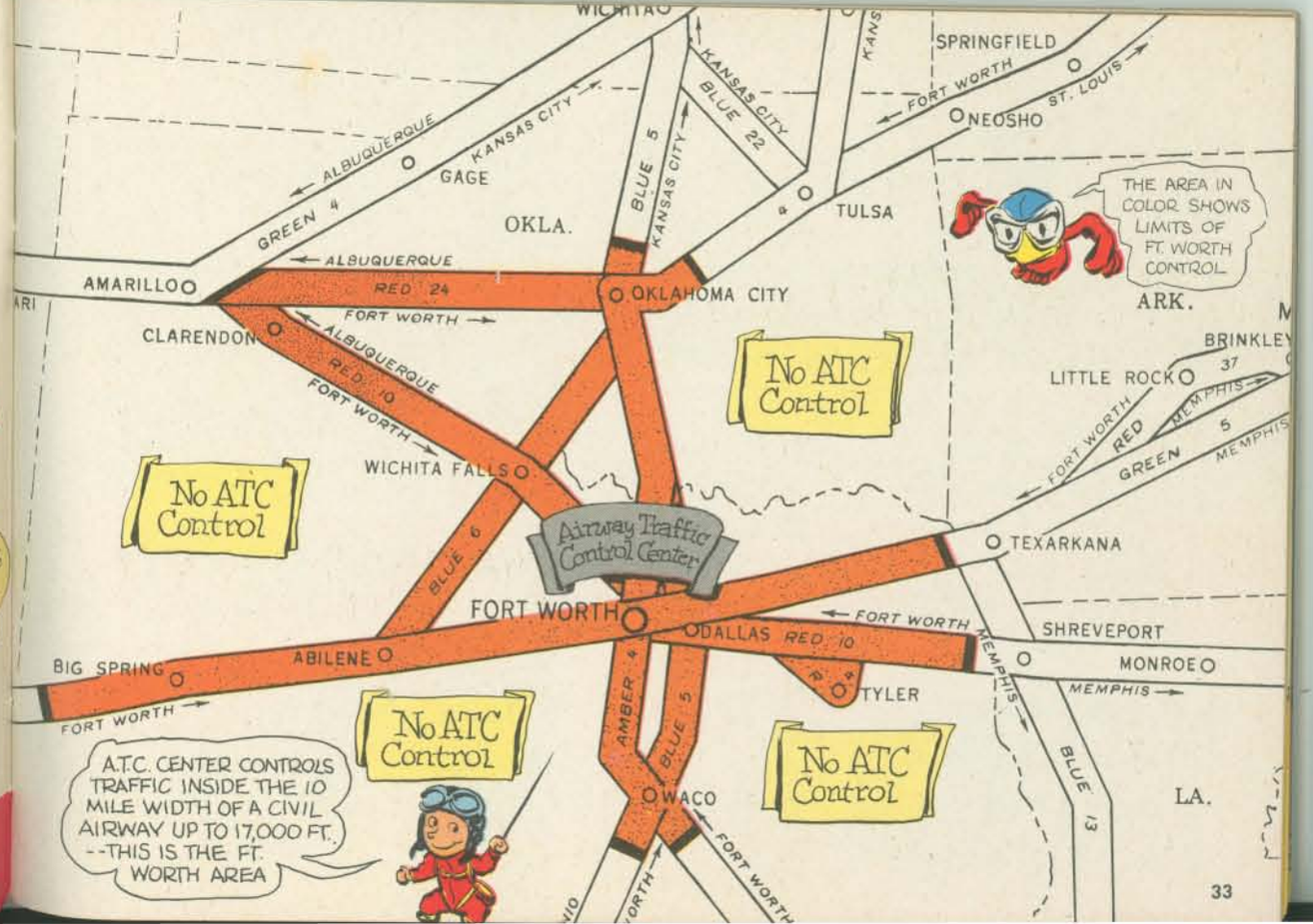
IT'S IMPORTANT TO KNOW ALL THE RULES ABOUT FLYING THE AIRWAYS --- SO WE'RE ON OUR WAY TO LEARN ABOUT
AIRWAY TRAFFIC CONTROL

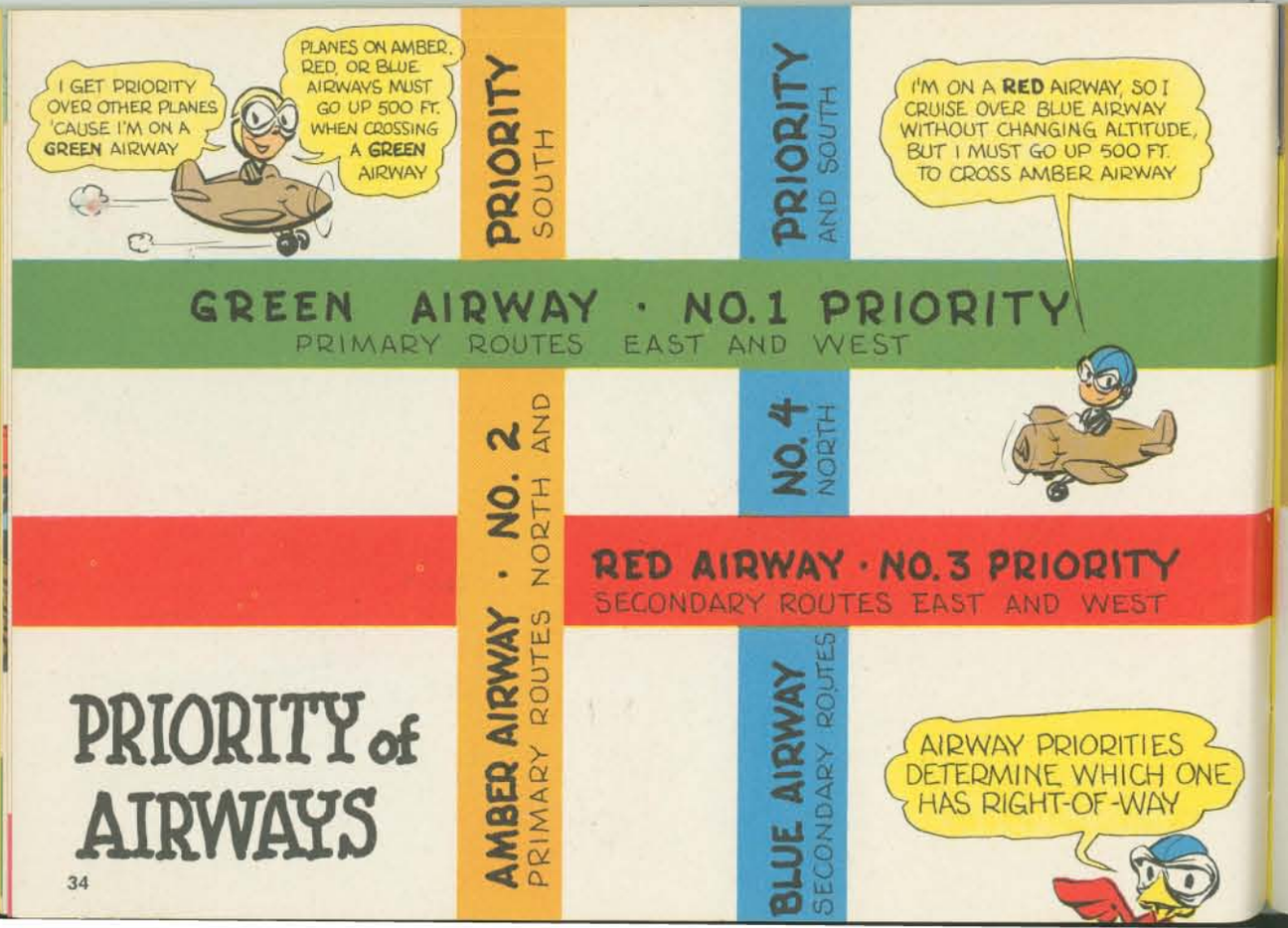


THIS IS A MAP OF AMERICA'S HIGHWAYS OF THE AIR--THERE ARE 23 SEPARATE CONTROL AREAS

○ A.T.C. CENTERS

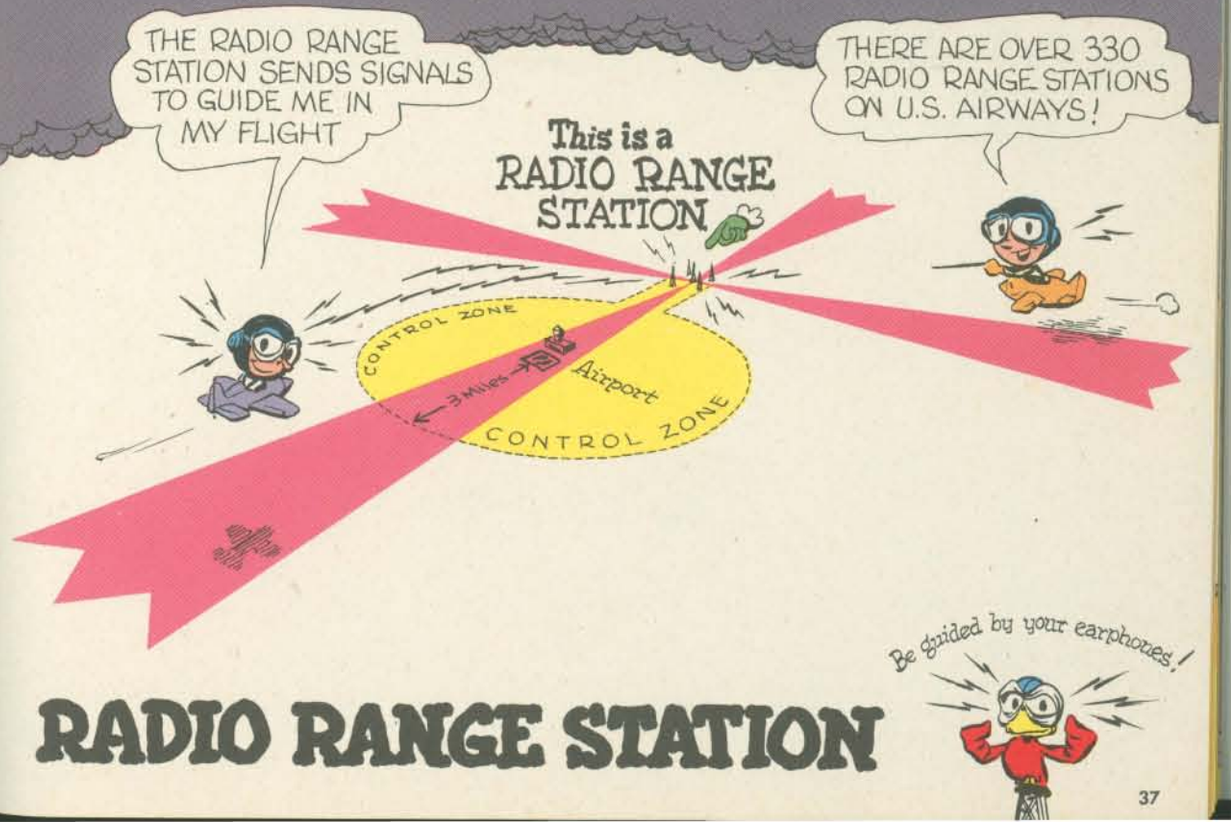
AIRWAY TRAFFIC CONTROL AREAS of U.S.



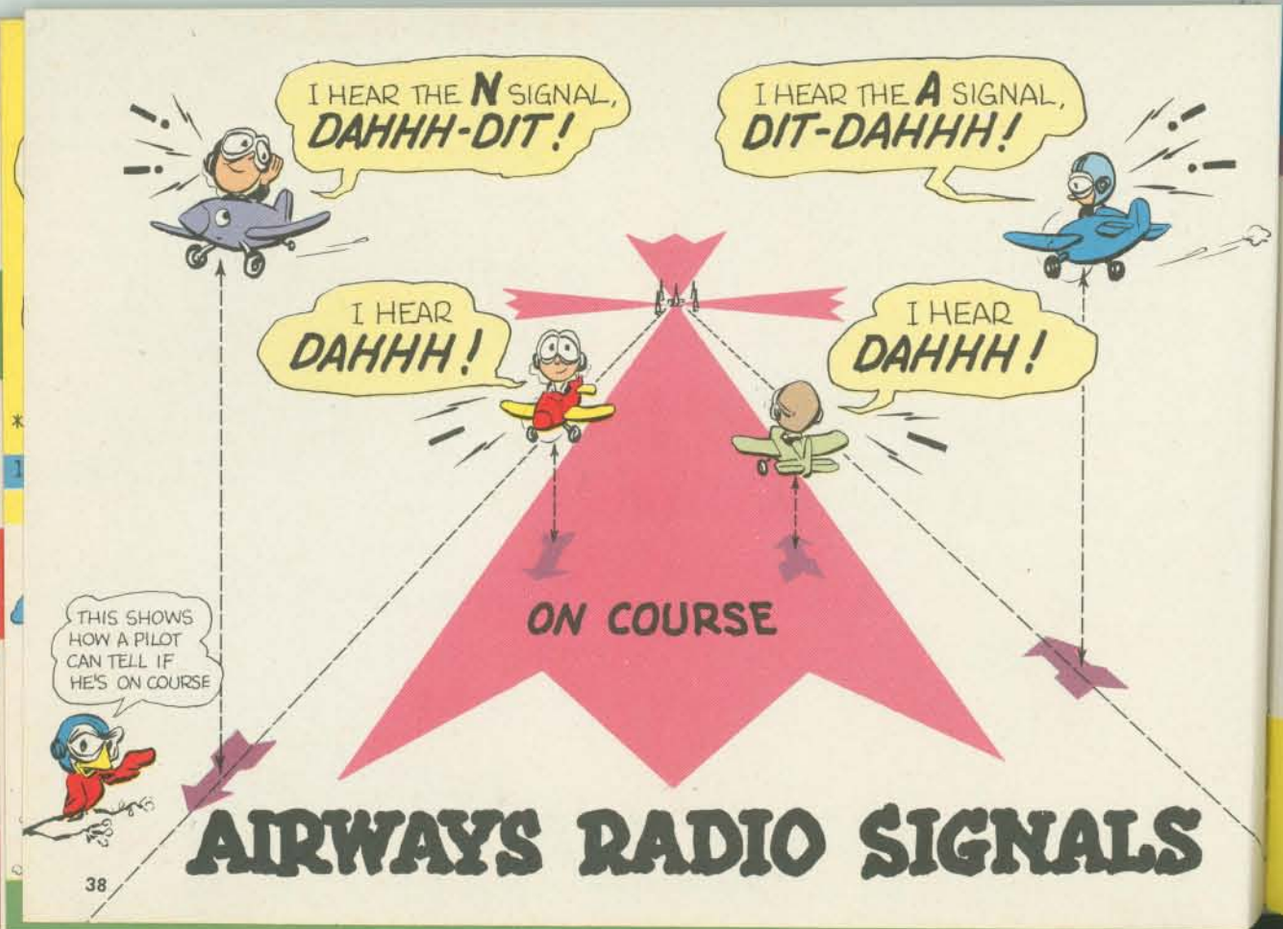


PRIORITY of AIRWAYS

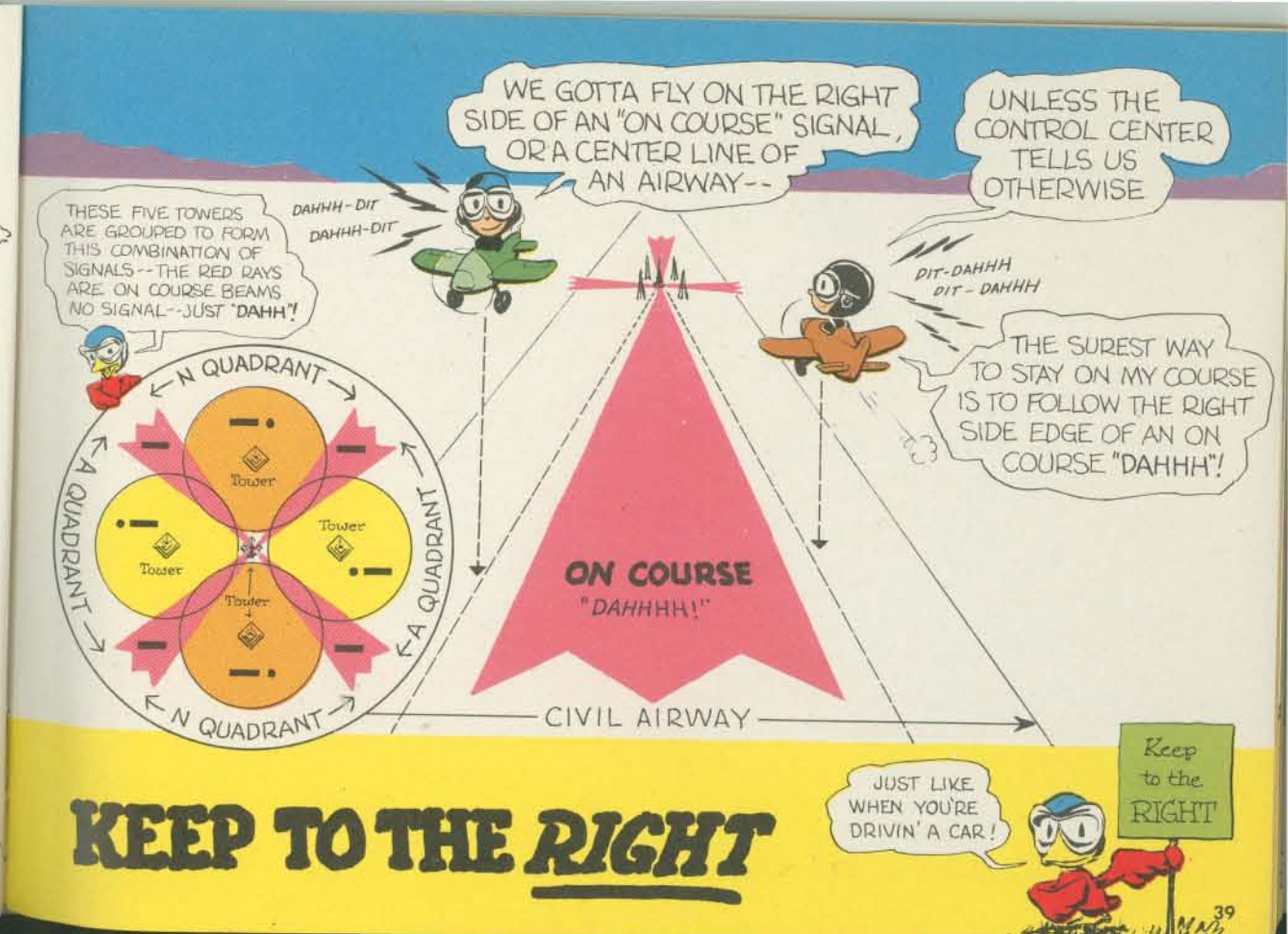
A.T.C. CLEARANCE



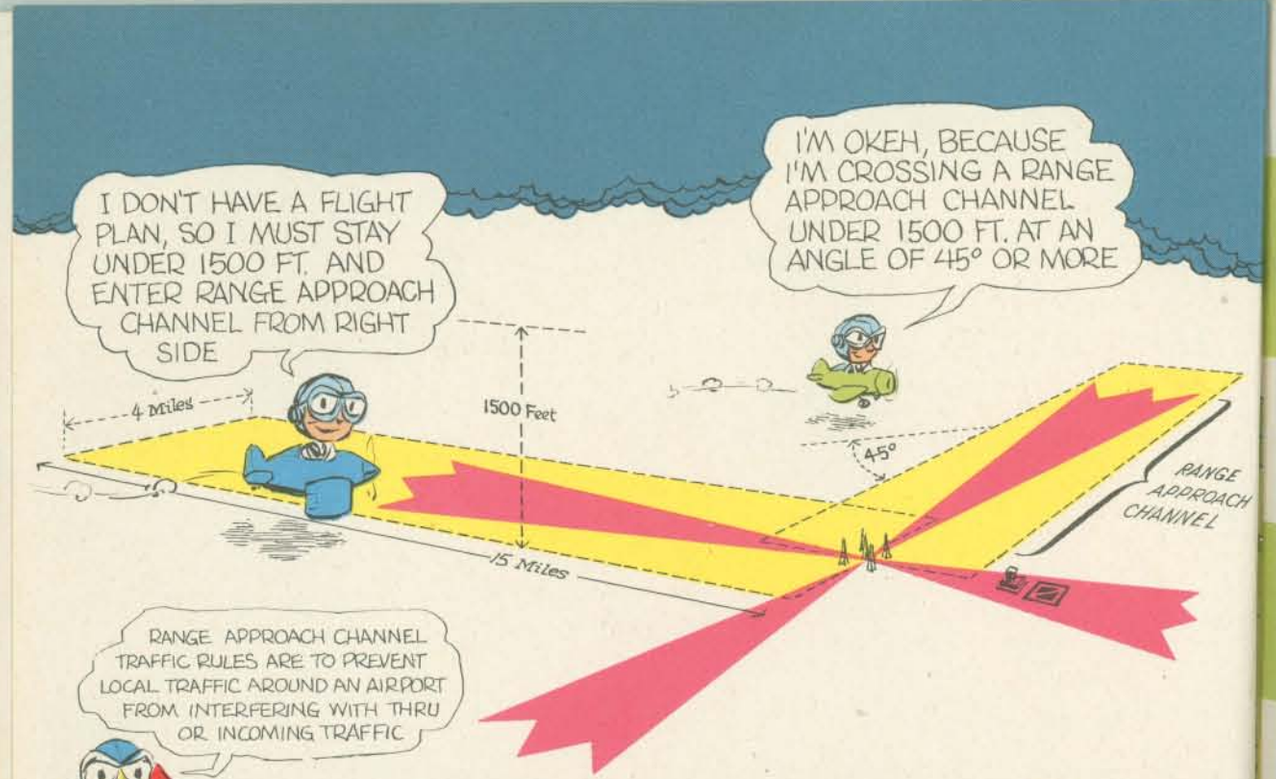
RADIO RANGE STATION



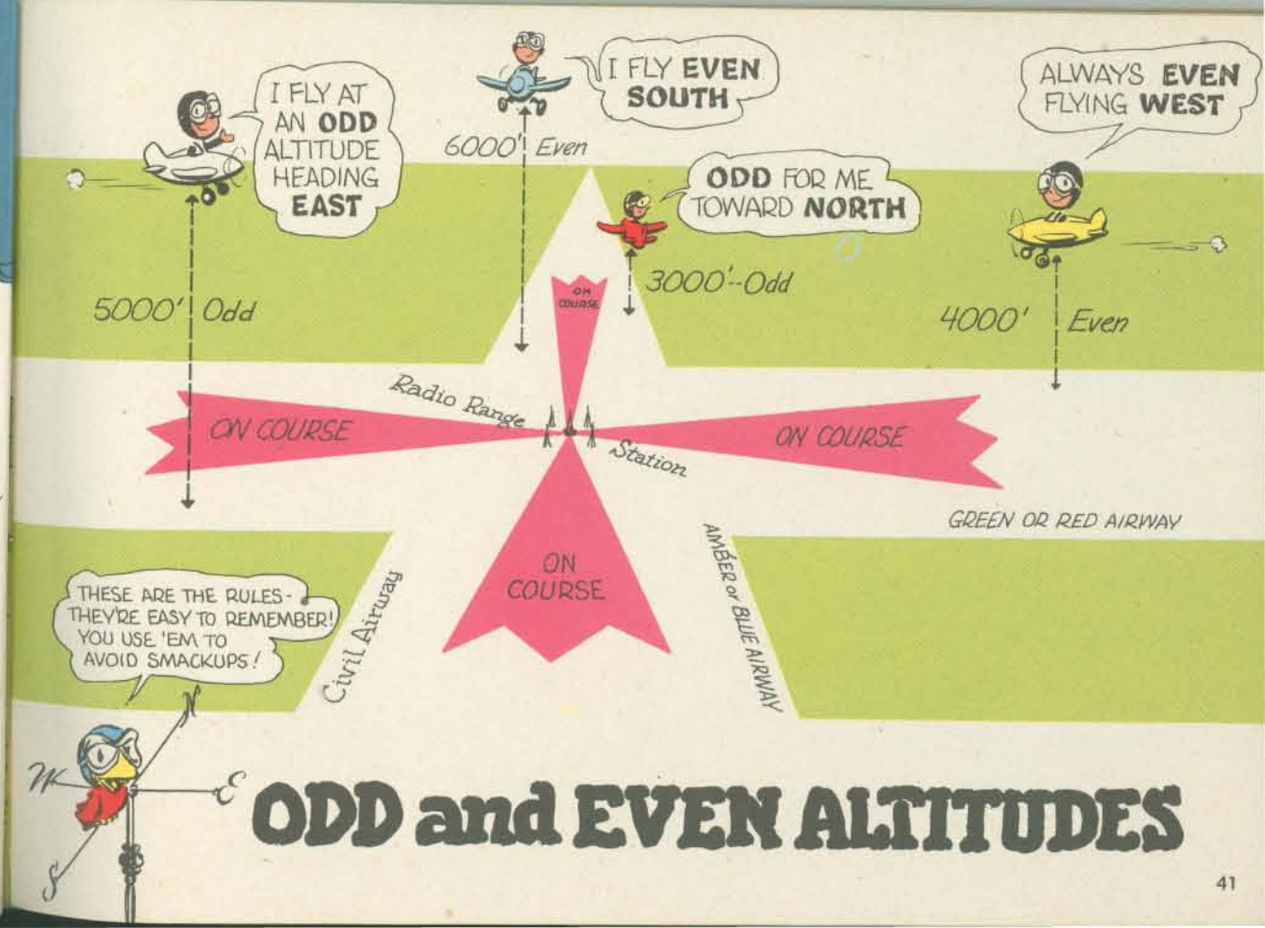
AIRWAYS RADIO SIGNALS



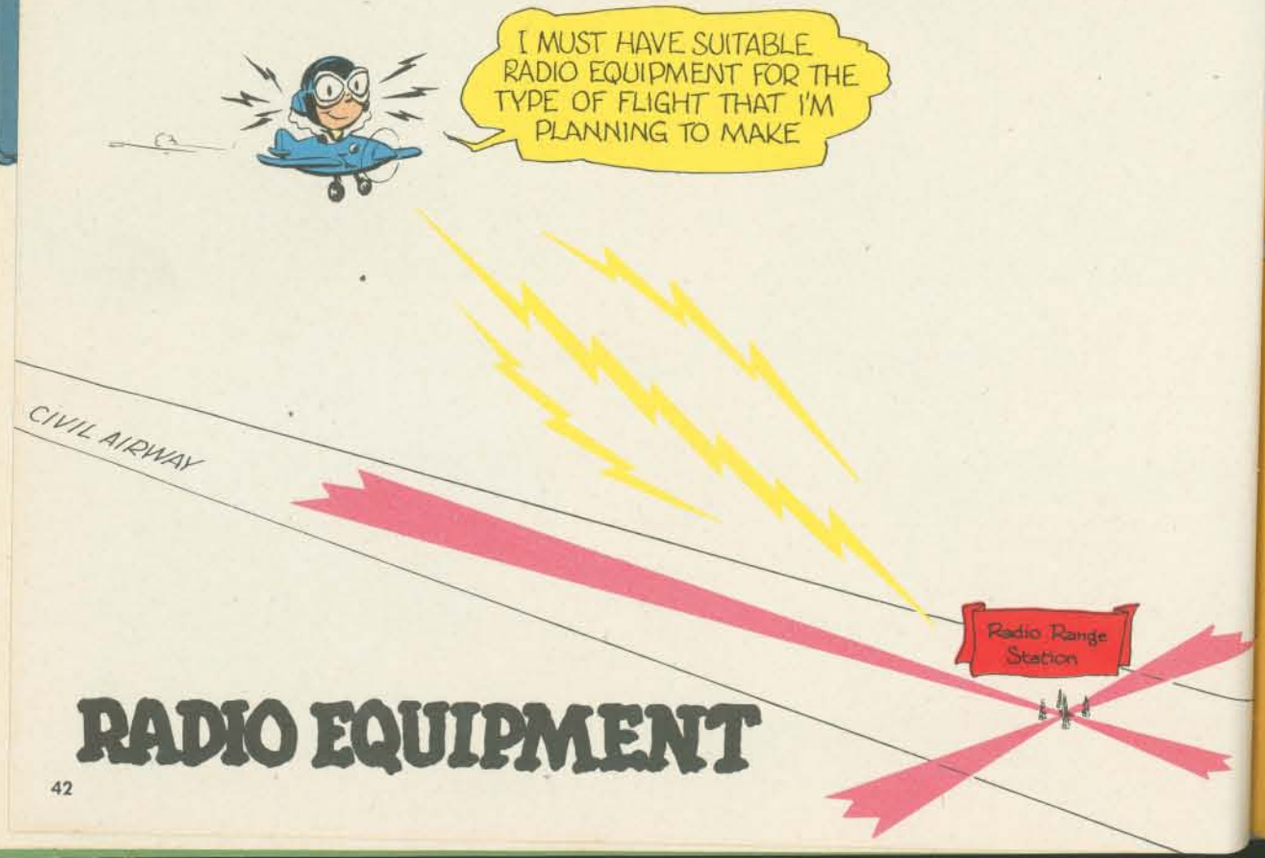
KEEP TO THE *RIGHT*



RANGE APPROACH CHANNEL *Traffic*

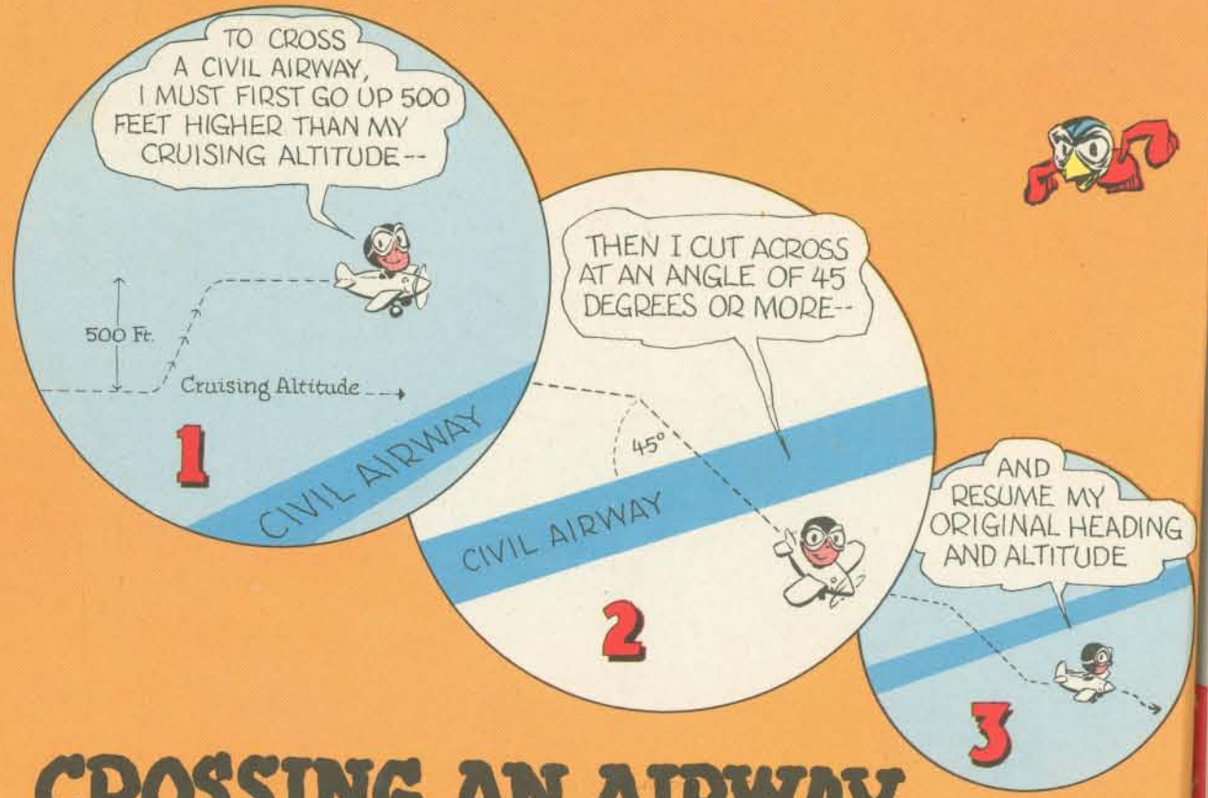


ODD and EVEN ALTITUDES



RADIO EQUIPMENT

RADIO FAILURE



CROSSING AN AIRWAY

Attention SIGNAL

I CAN'T CHANGE MY FLIGHT PLAN EN ROUTE WITHOUT A.T.C. APPROVAL UNLESS EMERGENCY OR WEATHER MAKES ME. THEN I NOTIFY THE AIRWAY TRAFFIC CONTROL CENTER RIGHT AWAY!

Original Approved Altitude

LET A.T.C. KNOW BY RADIO THROUGH THE NEAREST COMMUNICATIONS STATION

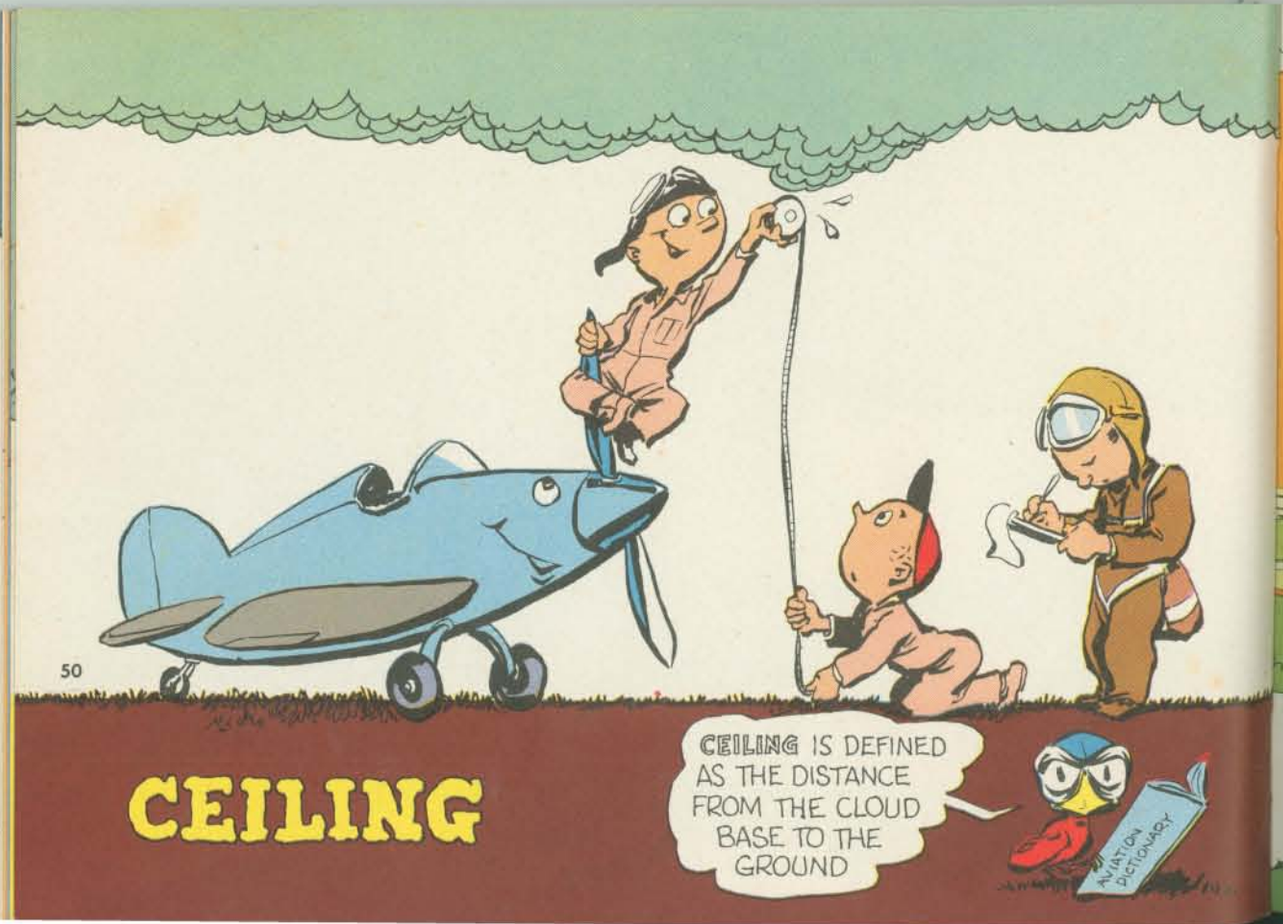
FLIGHT PLAN CHANGE

MOST OF A PILOT'S FLIGHTS ARE MADE IN ACCORDANCE WITH **CONTACT FLIGHT RULES**

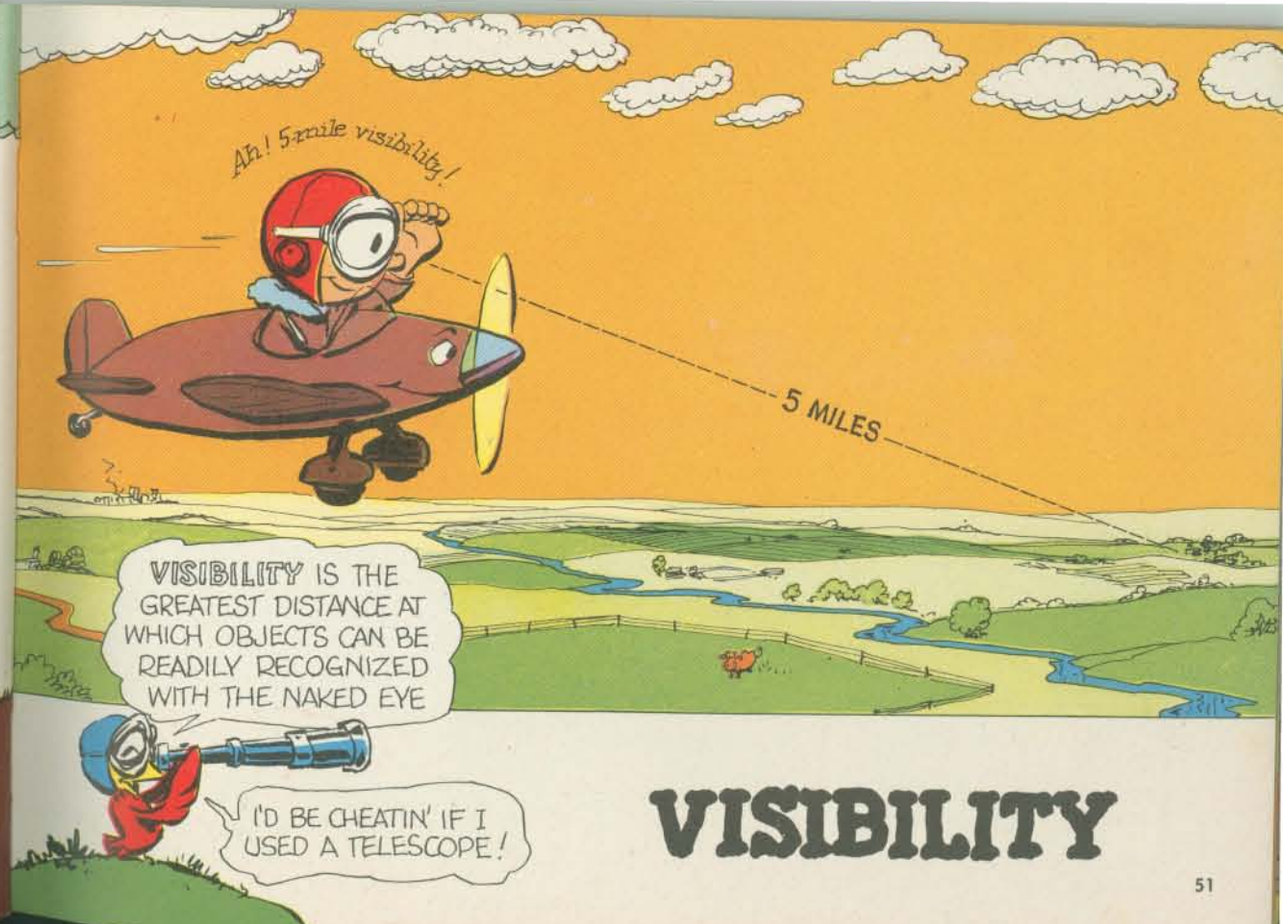
LET'S LEARN ABOUT 'EM!

THIS IS *NOT* CONTACT FLIGHT

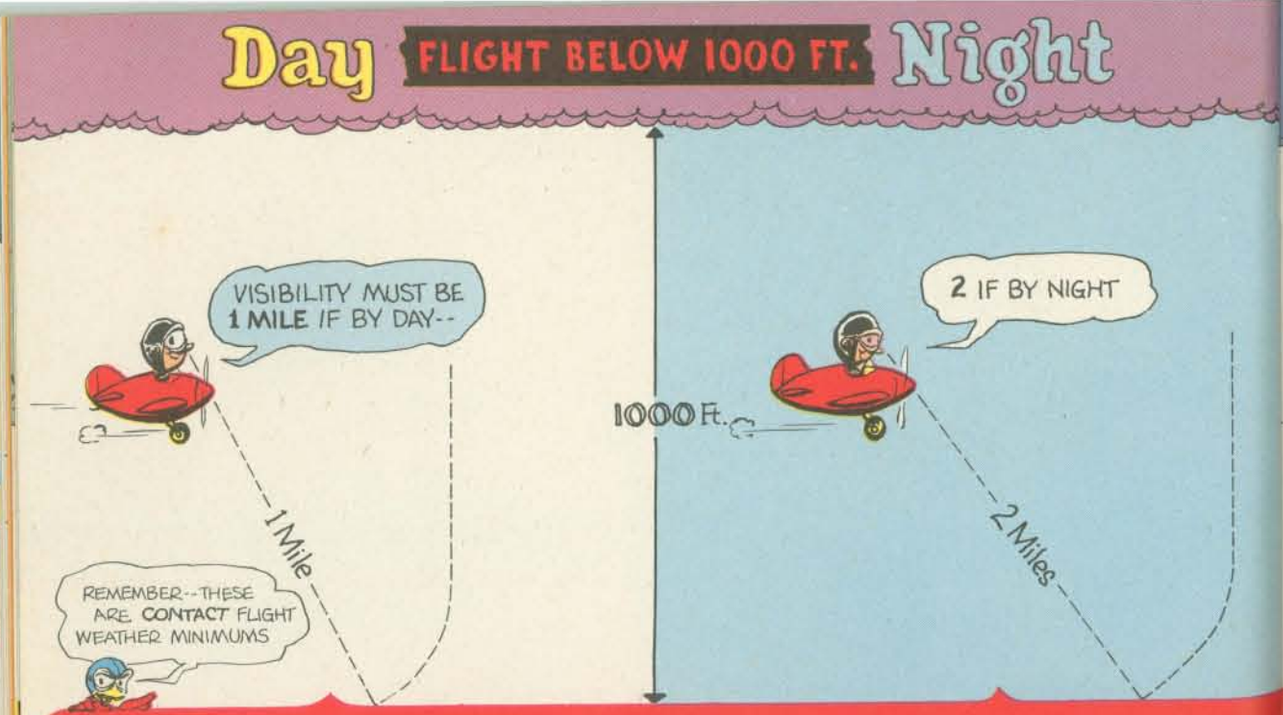
THIS *IS* CONTACT FLIGHT

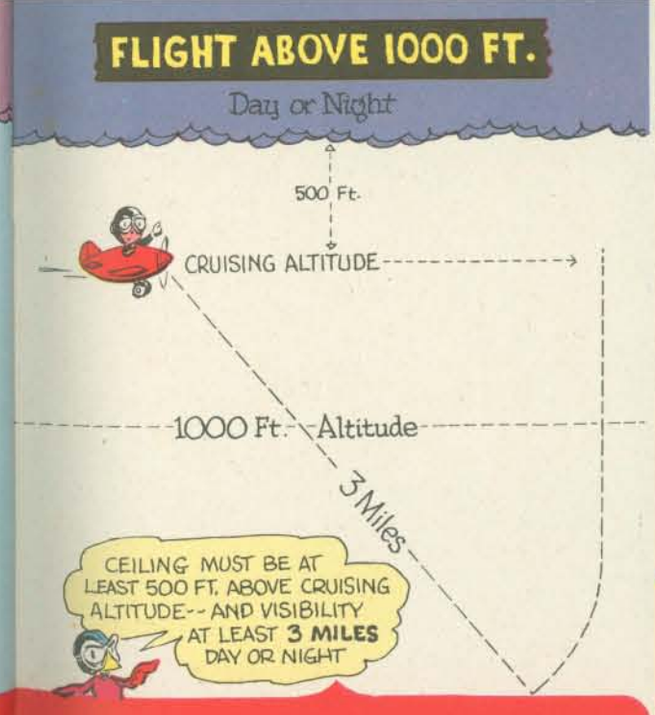


CEILING

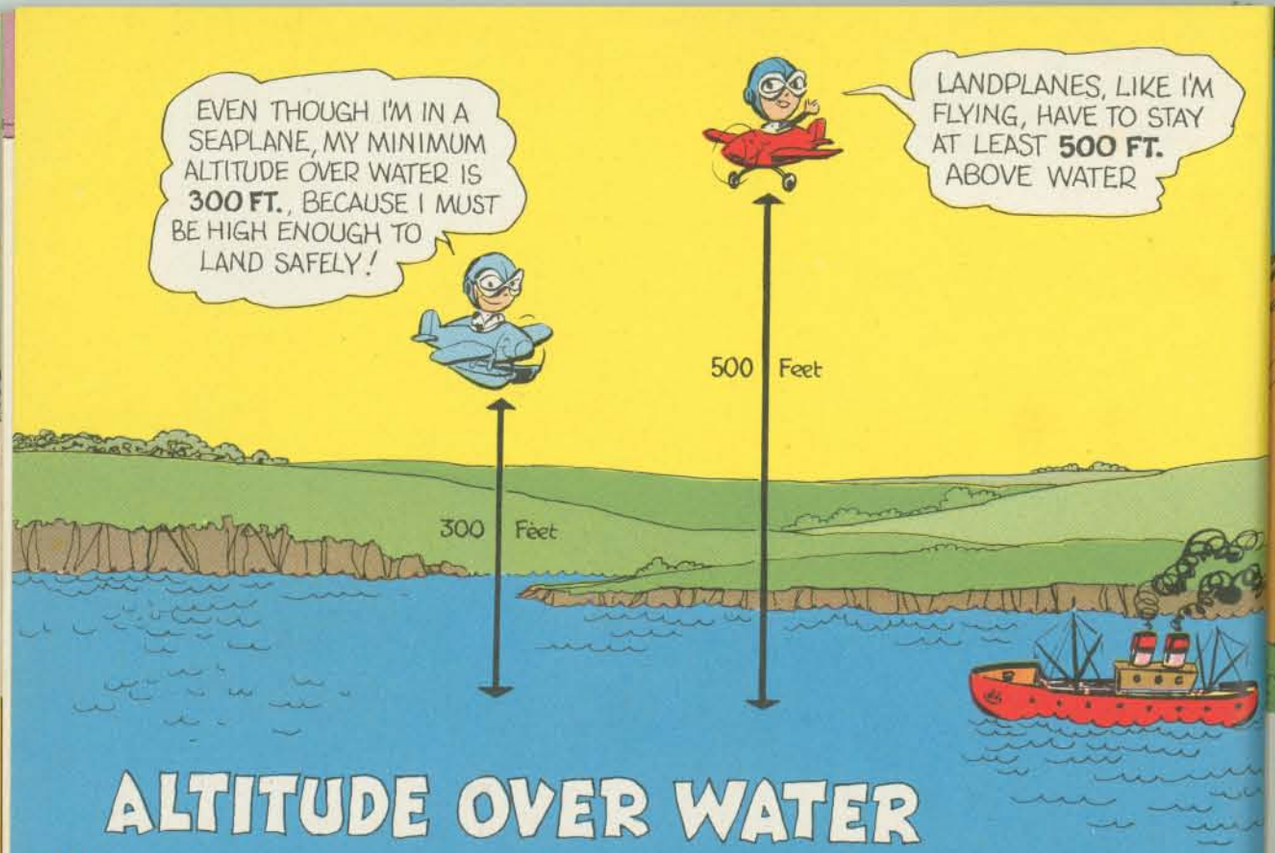


VISIBILITY

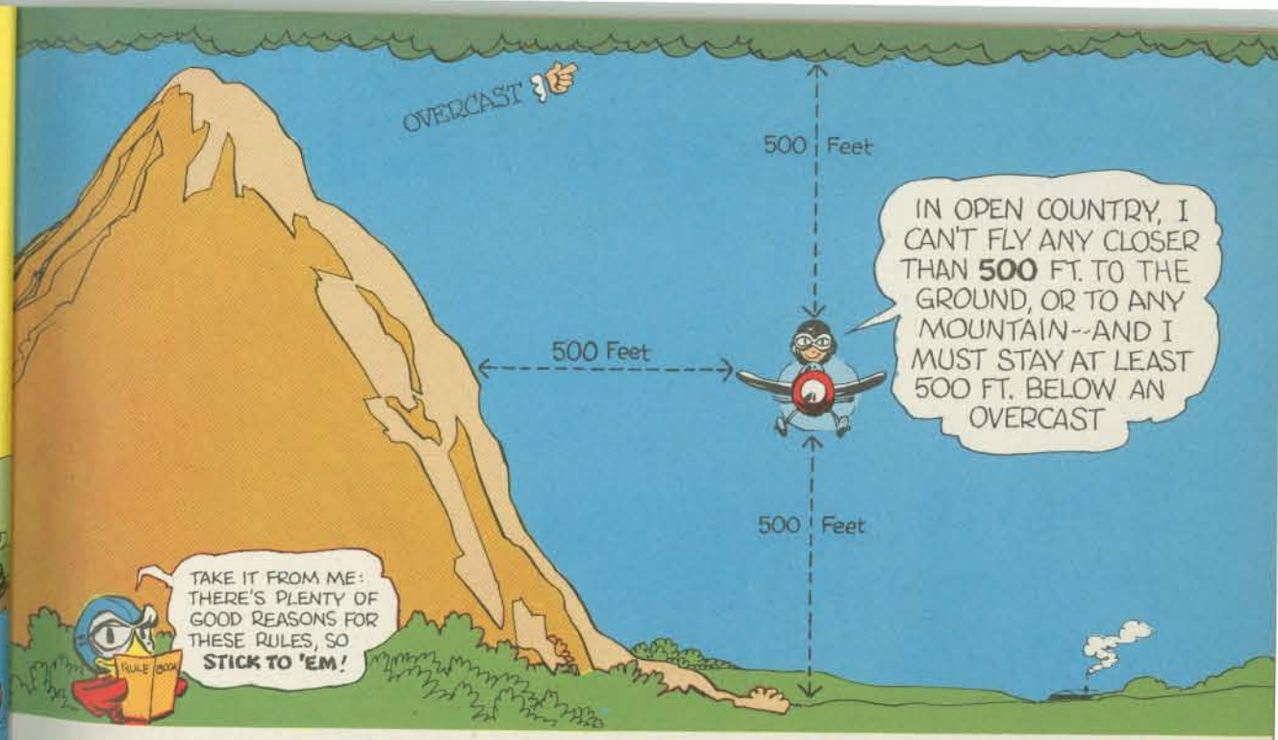




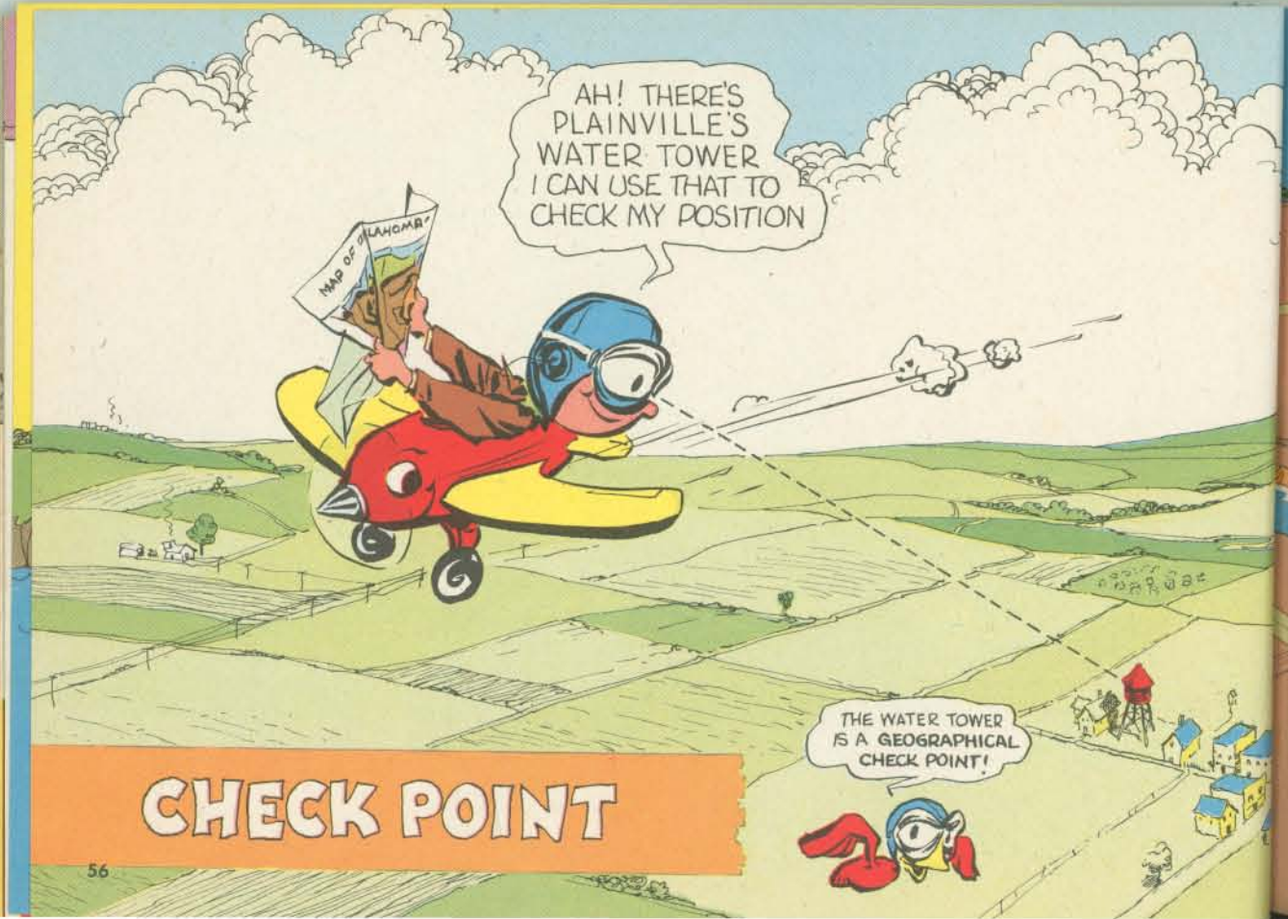
WEATHER MINIMUMS *Outside Control Zone* *Inside Control Zone*



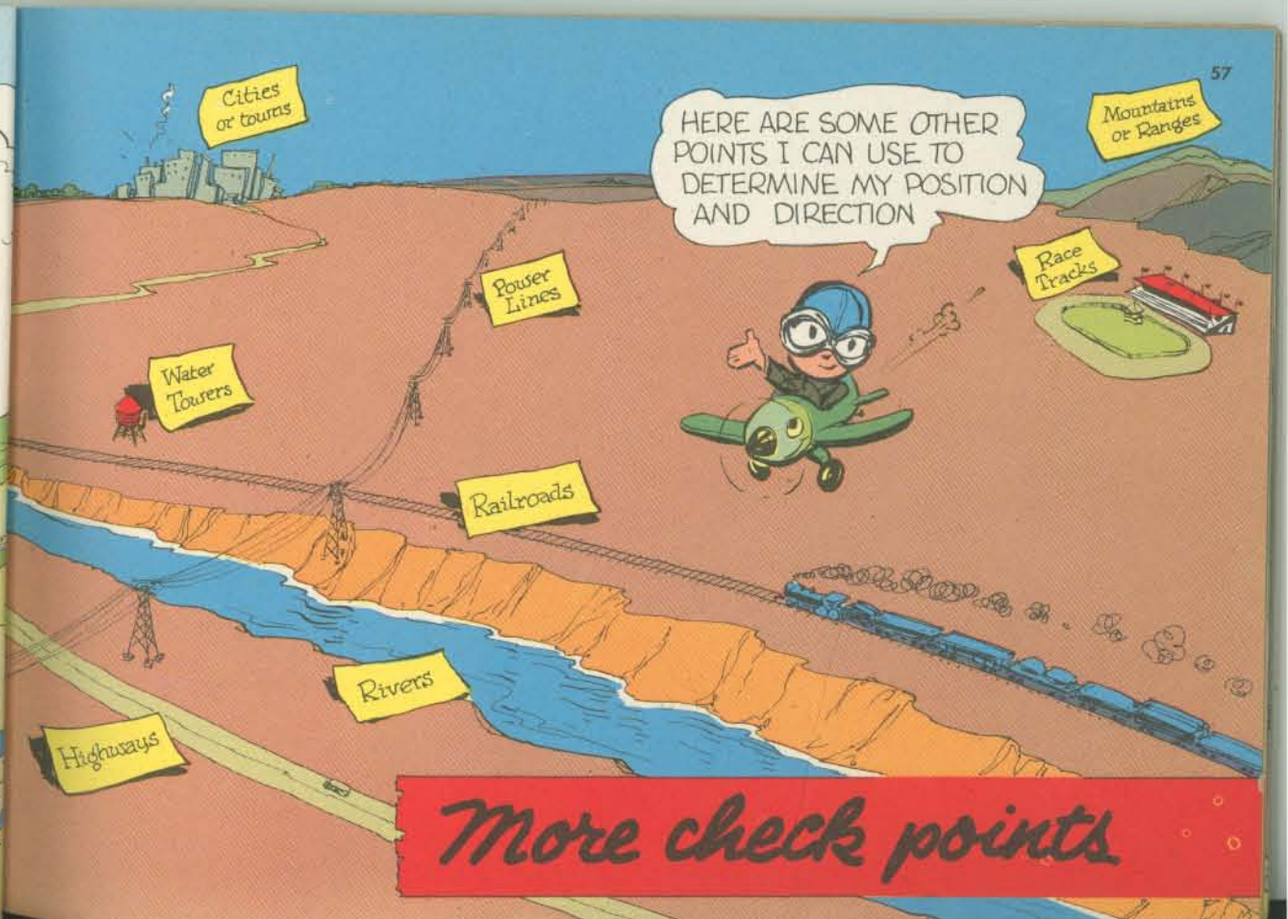
ALTITUDE OVER WATER



MINIMUM DISTANCE: *Open Country*

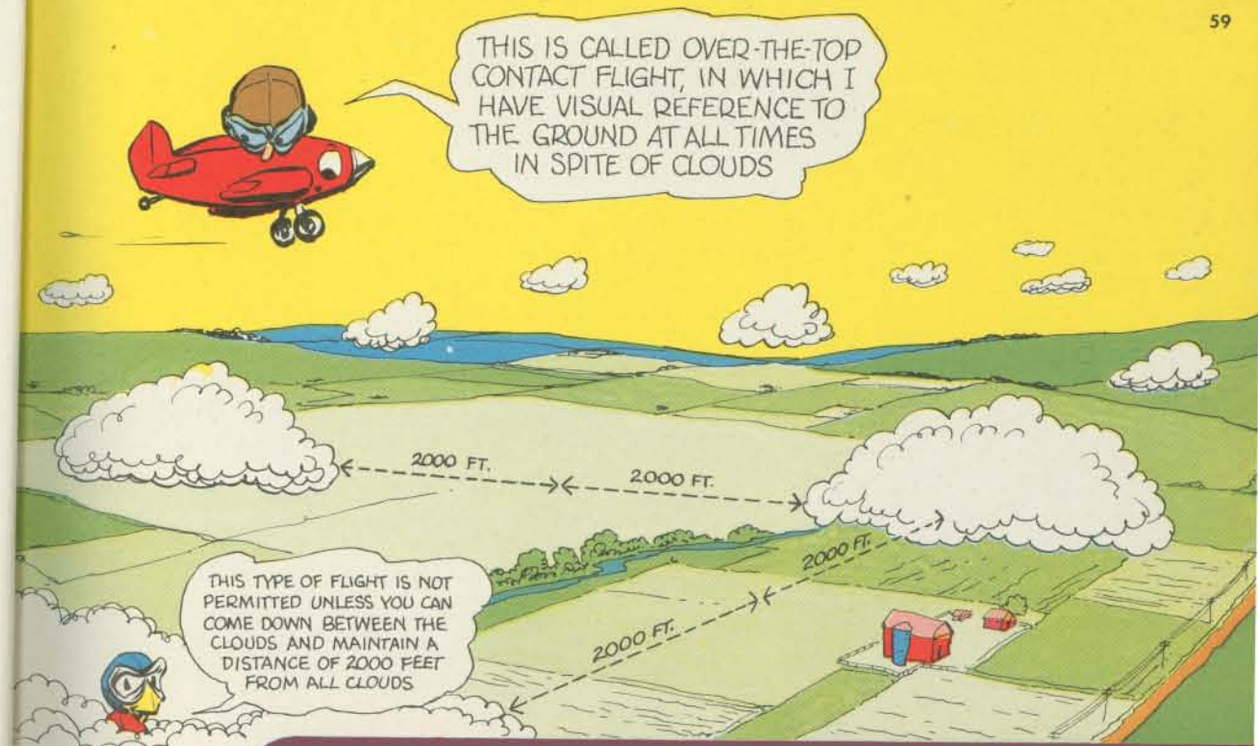


CHECK POINT

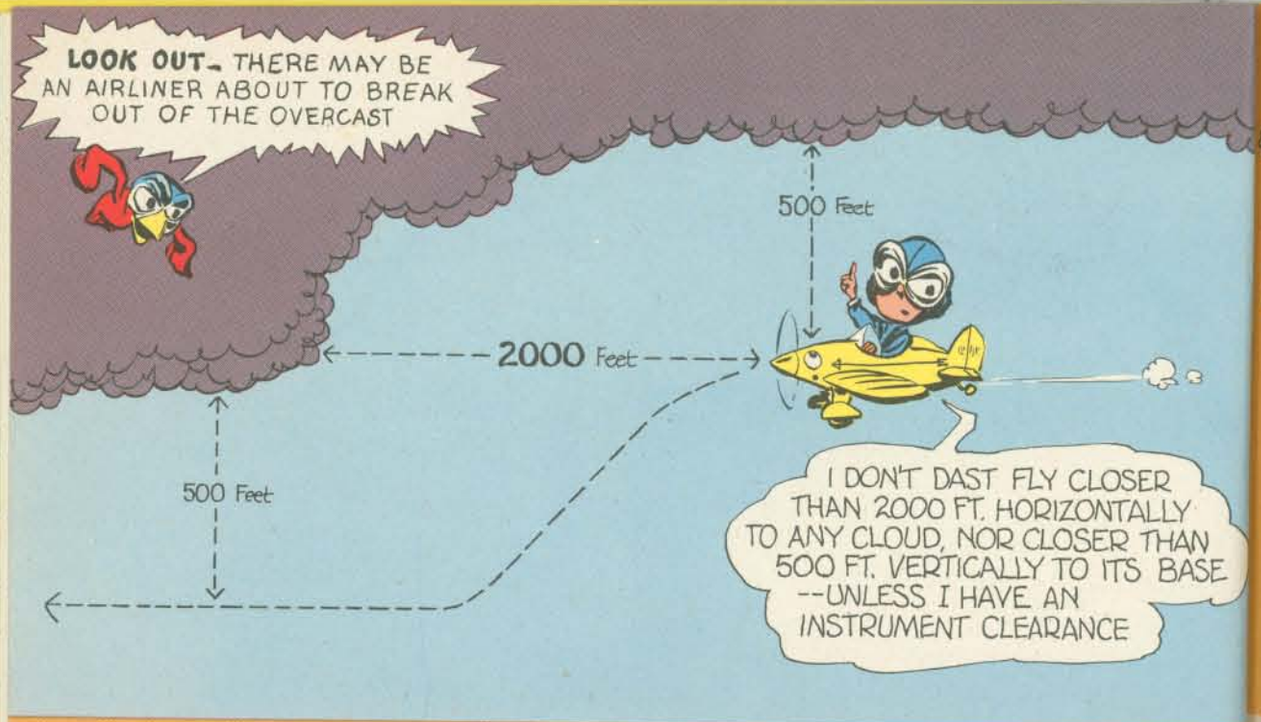


More check points

CRUISING ALTITUDE

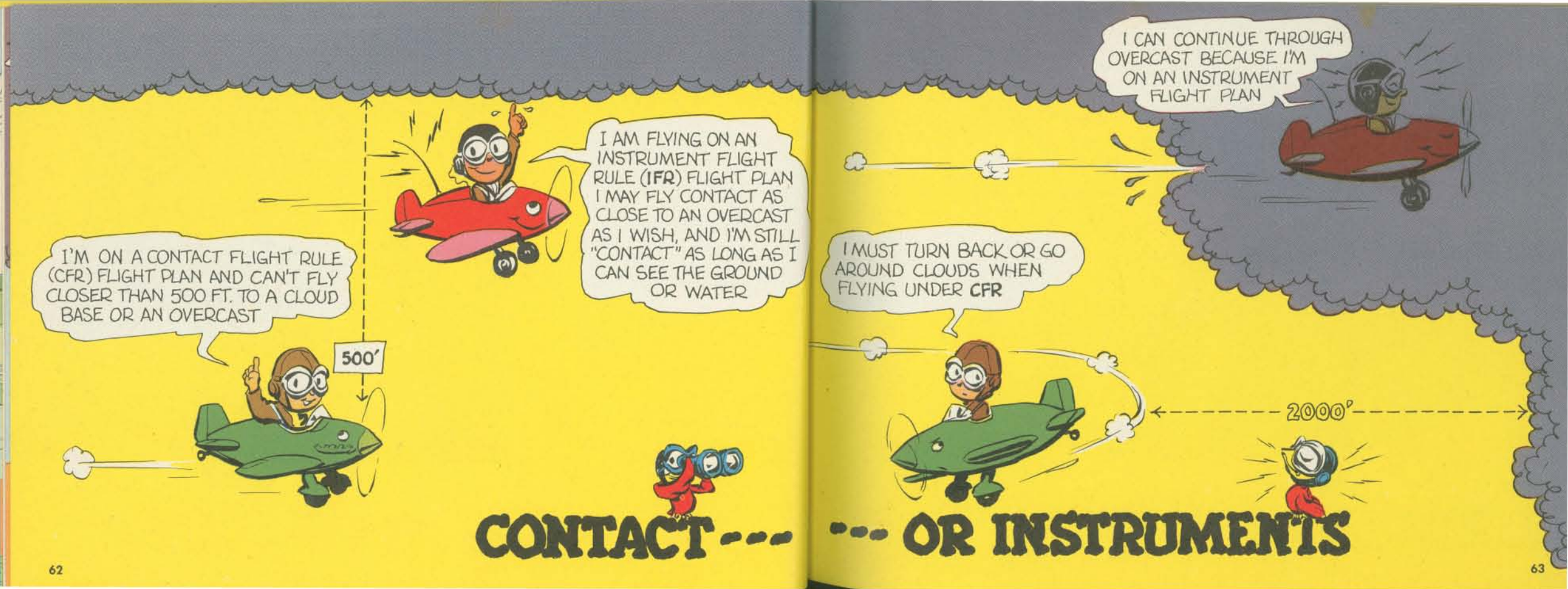


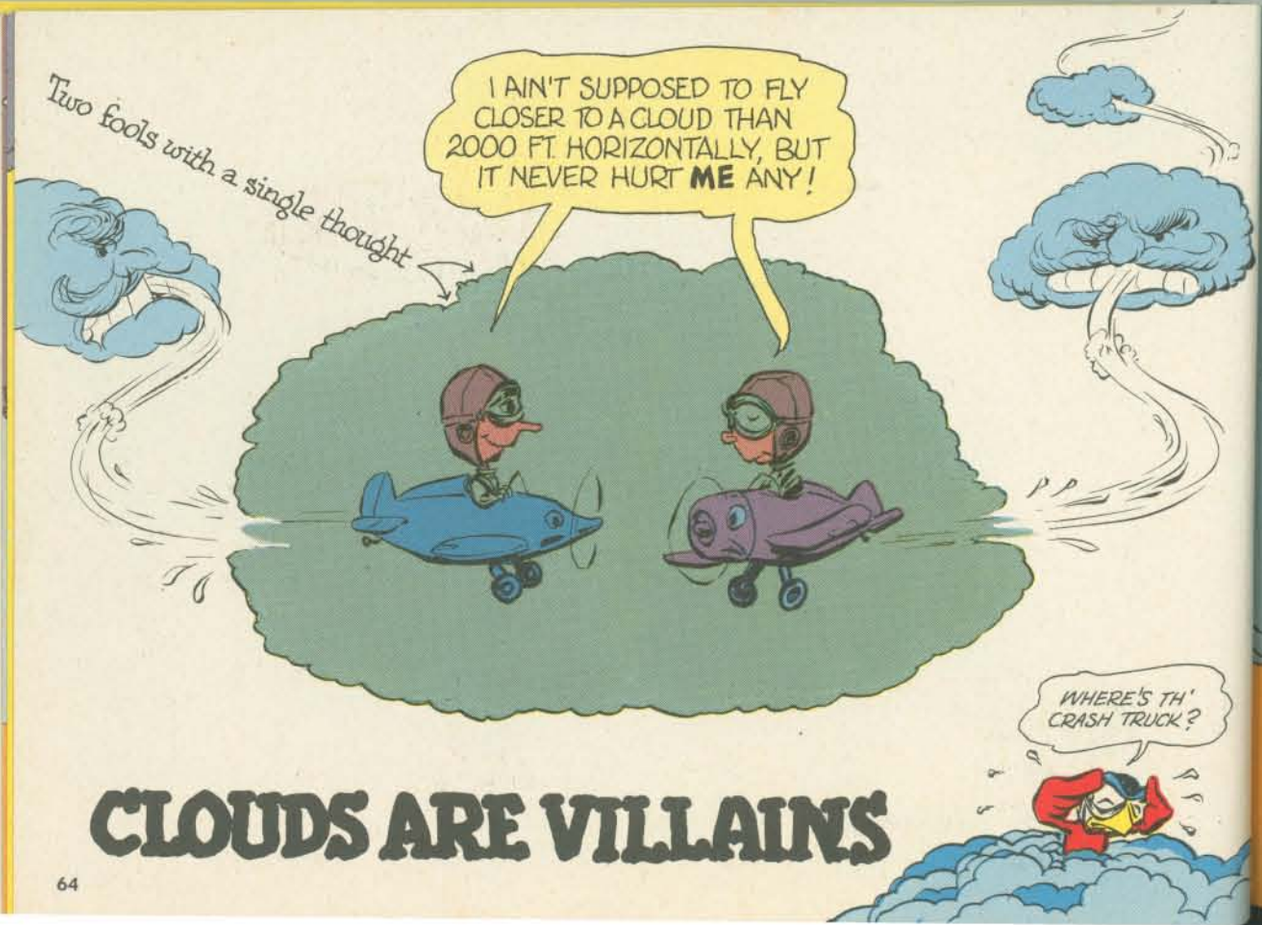
OVER-THE-TOP FLIGHT



BEWARE OF CLOUDS *During Contact Flight*

--- They may have a **SOLID CORE!!**

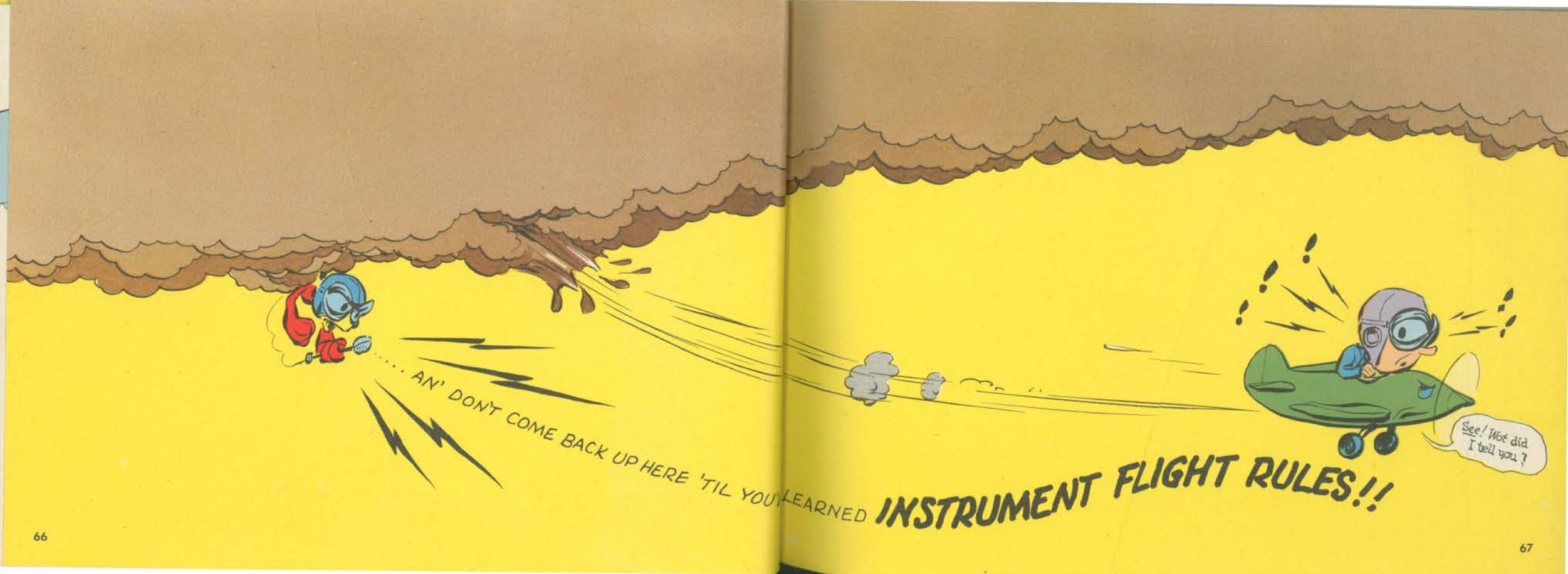

I'M ON A CONTACT FLIGHT RULE (CFR) FLIGHT PLAN AND CAN'T FLY CLOSER THAN 500 FT. TO A CLOUD BASE OR AN OVERCAST
500'
I AM FLYING ON AN INSTRUMENT FLIGHT RULE (IFR) FLIGHT PLAN I MAY FLY CONTACT AS CLOSE TO AN OVERCAST AS I WISH, AND I'M STILL "CONTACT" AS LONG AS I CAN SEE THE GROUND OR WATER
CONTACT---
I MUST TURN BACK OR GO AROUND CLOUDS WHEN FLYING UNDER CFR
2000'
I CAN CONTINUE THROUGH OVERCAST BECAUSE I'M ON AN INSTRUMENT FLIGHT PLAN
---OR INSTRUMENTS

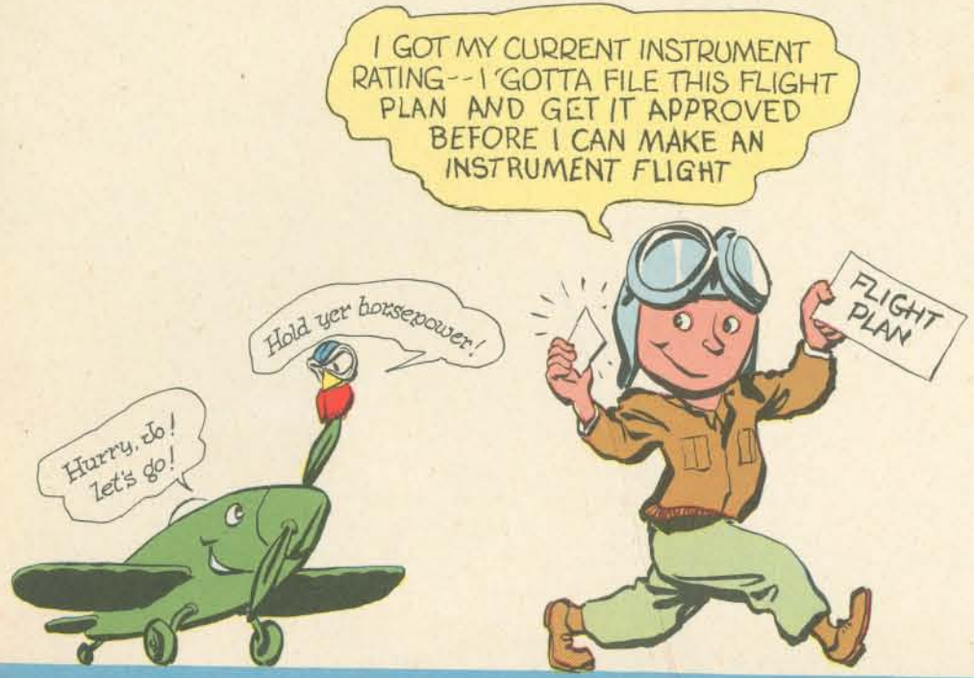


CLOUDS ARE VILLAINS

Overcast

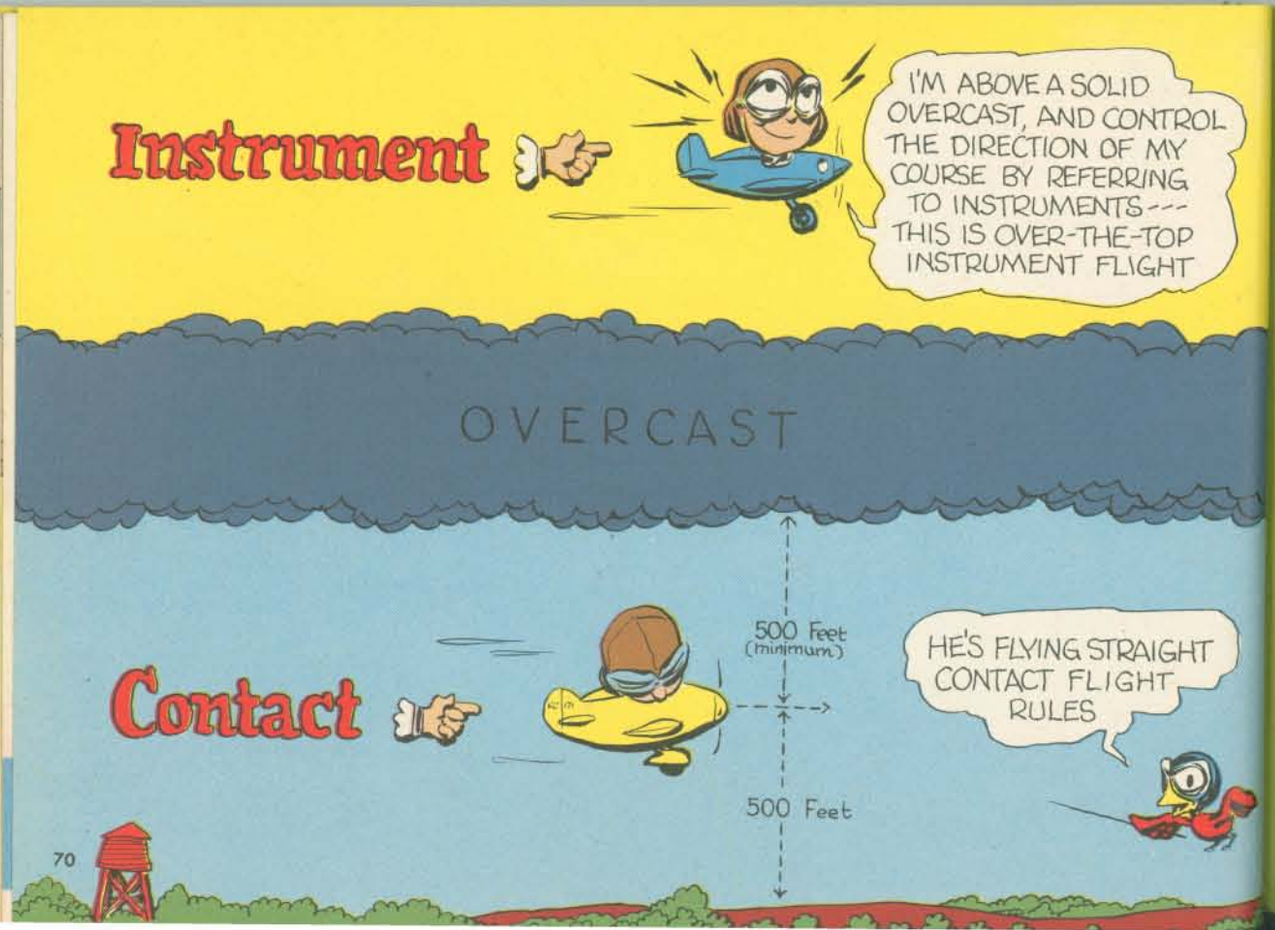
THROUGH THE OVERCAST


. . . . AN' DON'T COME BACK UP HERE 'TIL YOU'VE LEARNED INSTRUMENT FLIGHT RULES!!
See! Wot did I tell you?



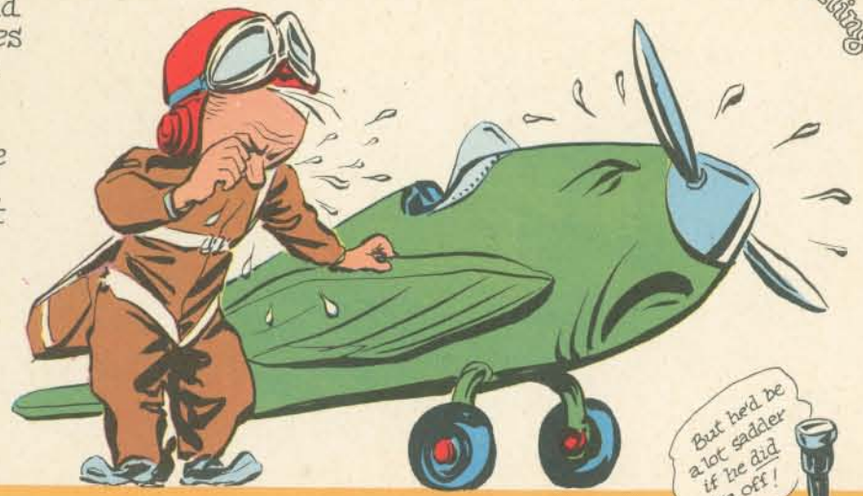
BEFORE *Instrument Flight*

INSTRUMENT FLIGHT PLAN


Instrument
I'M ABOVE A SOLID OVERCAST, AND CONTROL THE DIRECTION OF MY COURSE BY REFERRING TO INSTRUMENTS--- THIS IS OVER-THE-TOP INSTRUMENT FLIGHT
OVERCAST
Contact
500 Feet (minimum)
500 Feet
HE'S FLYING STRAIGHT CONTACT FLIGHT RULES

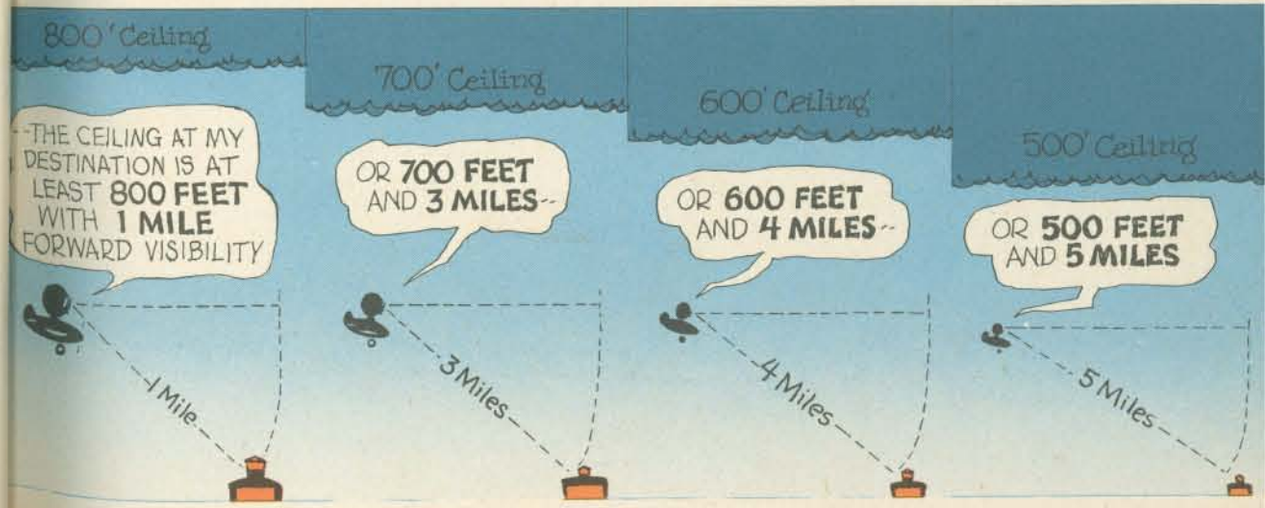
My Checklist:
1. Weather?
2. Check Points?
3. Radio Facilities?
4. Fuel?
5. Maps?
6. Alternate Airports?
7. Airplane?
8. Myself????
CHECKLIST

This pilot is sad because he loves to fly, but can't take off on instrument flight until the ceiling is at least **500** feet and there's a visibility of **one mile**...



TAKEOFF *Weather Minimums*

I CAN'T TAKE OFF ON AN INSTRUMENT FLIGHT PLAN, UNLESS ....



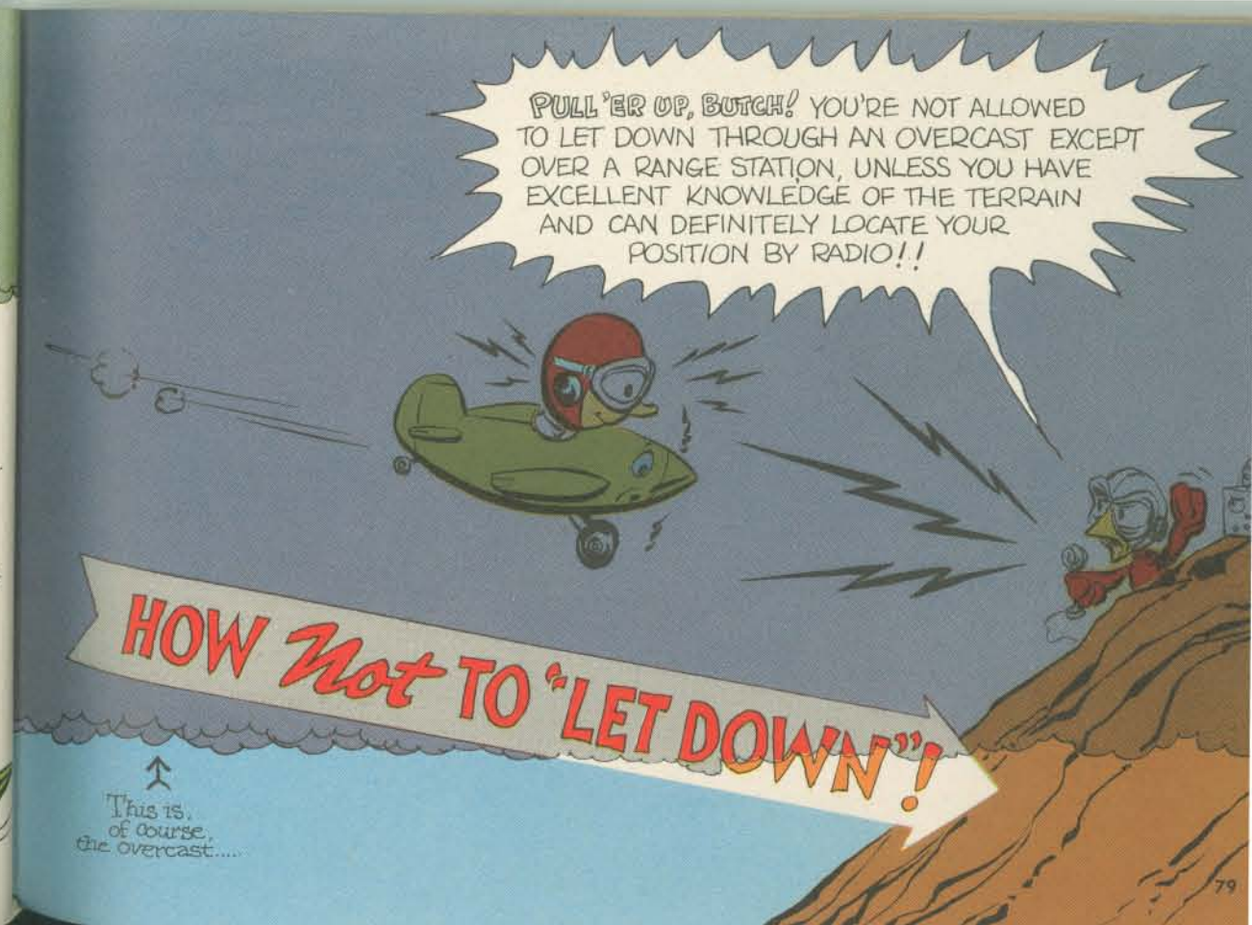
INSTRUMENT *Clearance Minimums*

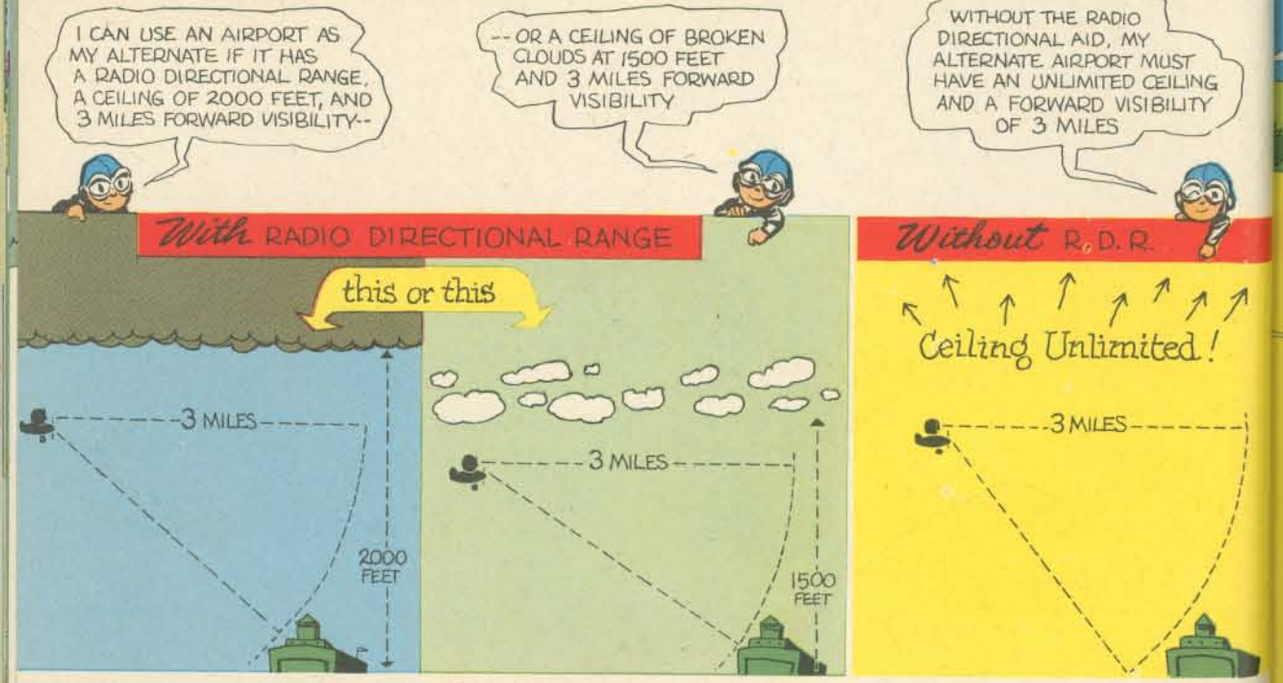
MINIMUM CRUISING ALTITUDE

WHERE AM I?

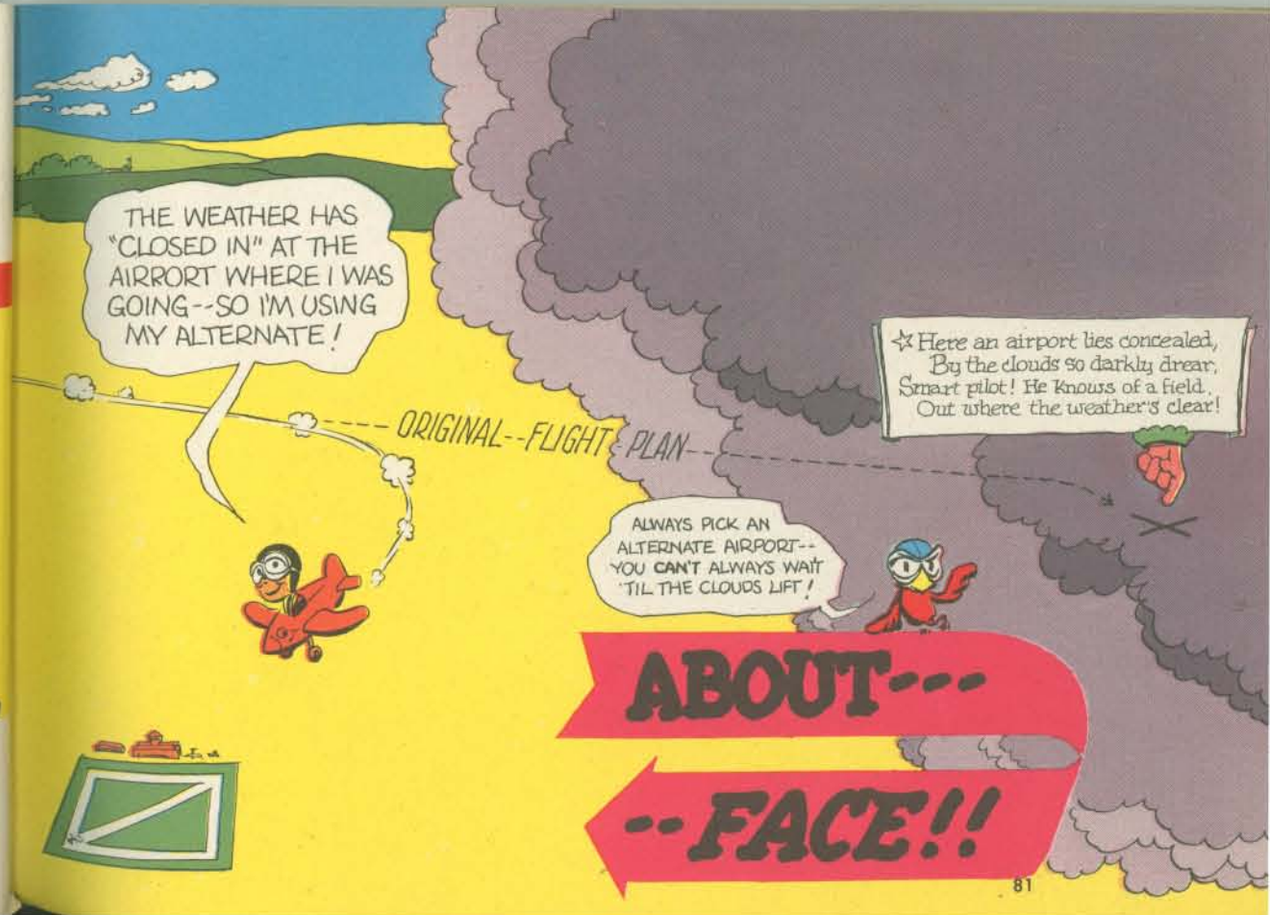
No signal in here
I JUST PASSED A FAN MARKER FIX -- BY CHECKING MY MAPS, I KNOW I AM NOT FAR FROM RADIO RANGE STATION "X"
I'M IN A CONE OF SILENCE FIX----I FOLLOW THE SIGNAL FOR "ON COURSE" UNTIL IT STOPS FOR A MOMENT, THEN I KNOW I'M OVER RANGE STATION "X"
Range Station "X"
CIVIL AIRWAY
RADIO FIXES ARE SIMPLY PLACES ON AN AIRWAY WHERE VARIOUS TYPES OF RADIO SIGNALS ARE USED TO CHECK YOUR POSITION
A PILOT MUST REPORT TIME AND ALTITUDE OVER EACH RADIO FIX!
RADIO FIXES
THIS IS AN INTERSECTION FIX--I AM FLYING ON A LEG OF "B" AND I'M TUNED TO "X", --I KNOW MY POSITION AS SOON AS I CROSS THE ON COURSE LEG OF STATION "X"
Cone of Silence
Z-Type Marker
SOME STATIONS HAVE A Z-TYPE MARKER FIX, THE SIGNAL OF WHICH I GET JUST BEFORE ENTERING THE CONE OF SILENCE --THEN I'M RIGHT OVER STATION "B"
Range Station "B"
Leg
AIRWAY
B's On Course
CIVIL
STATION X's On Course Leg
STATION

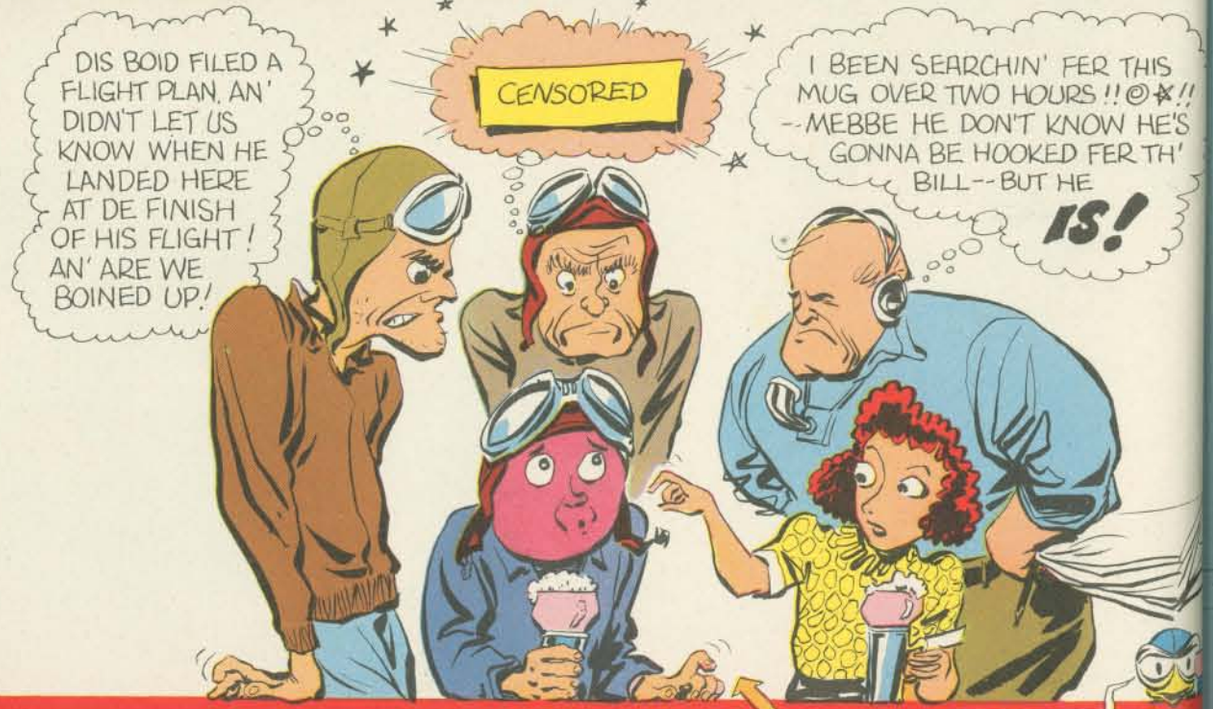
IF MY RADIO GOES ON THE FRITZ, I HAVE TO DESCEND TO WHERE I CAN FOLLOW CONTACT FLIGHT RULES--OR LAND AT THE FIRST CONTACT AIRPORT
500 Ft. or more, as usual---
RADIO TROUBLE?


PULL 'ER UP, BUTCH! YOU'RE NOT ALLOWED TO LET DOWN THROUGH AN OVERCAST EXCEPT OVER A RANGE STATION, UNLESS YOU HAVE EXCELLENT KNOWLEDGE OF THE TERRAIN AND CAN DEFINITELY LOCATE YOUR POSITION BY RADIO!!
HOW Not TO "LET DOWN"!
This is, of course, the overcast.....



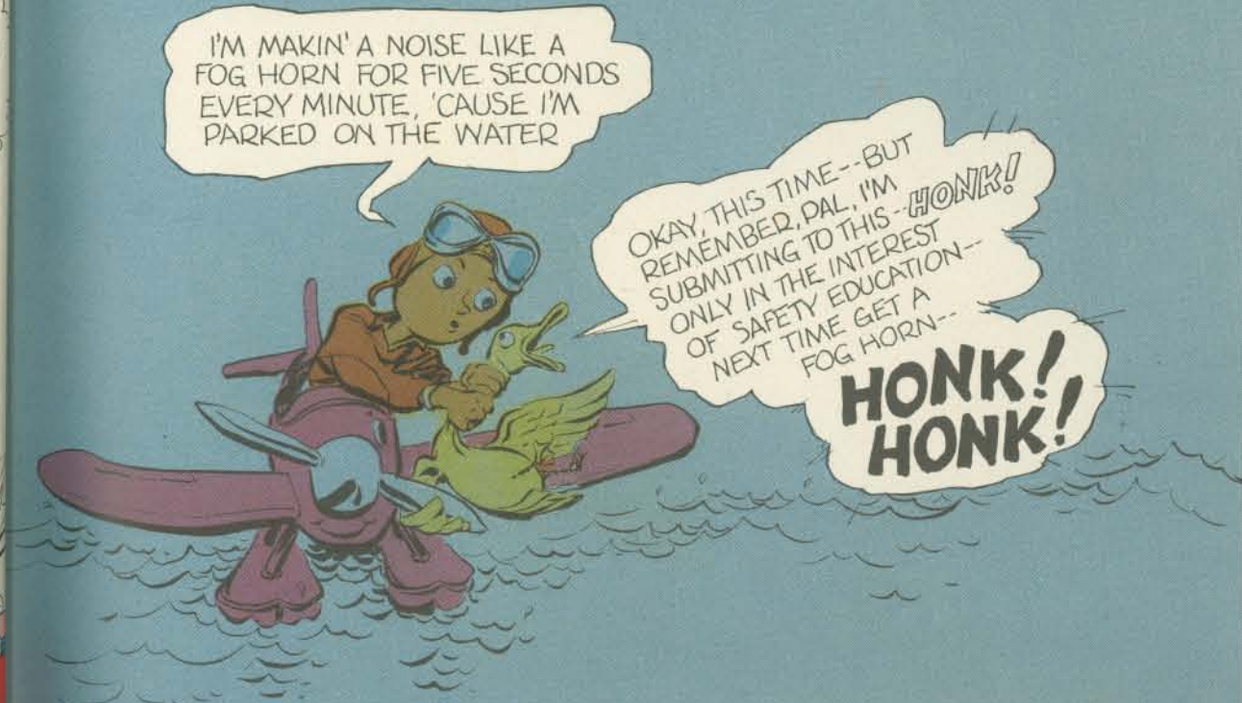
ALTERNATE AIRPORT *Weather Minimums*



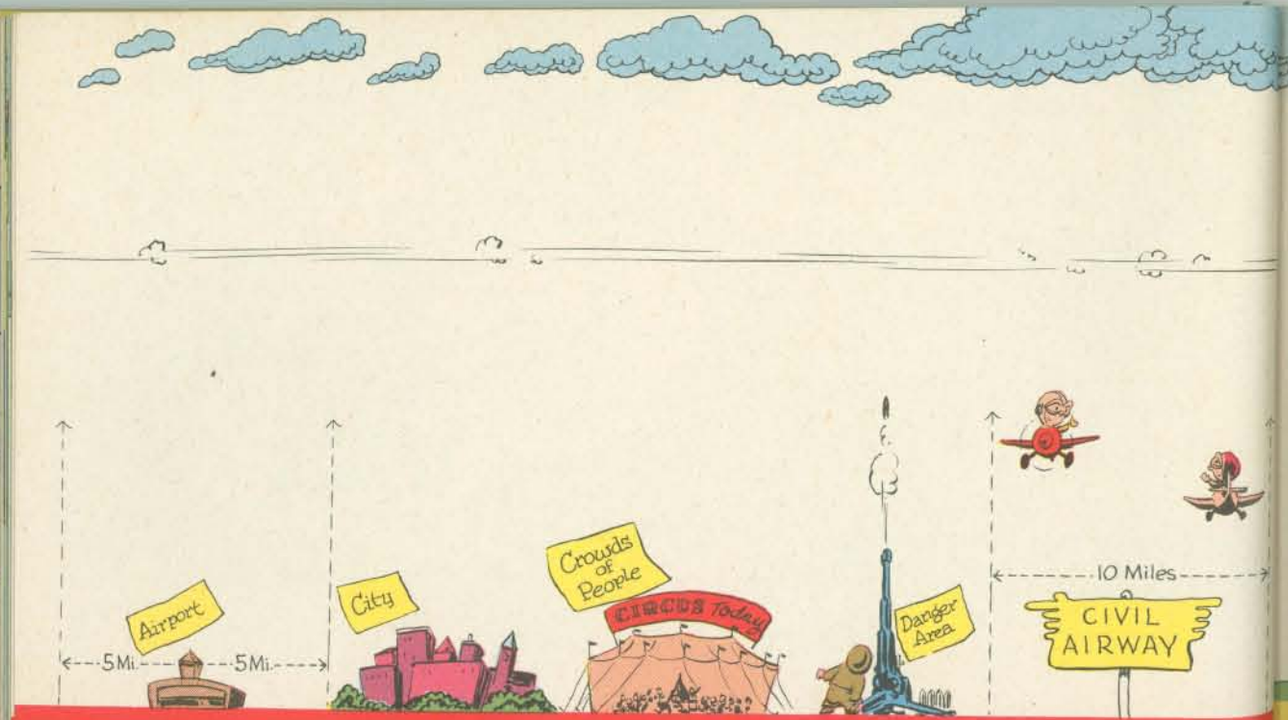


FILING AN ARRIVAL

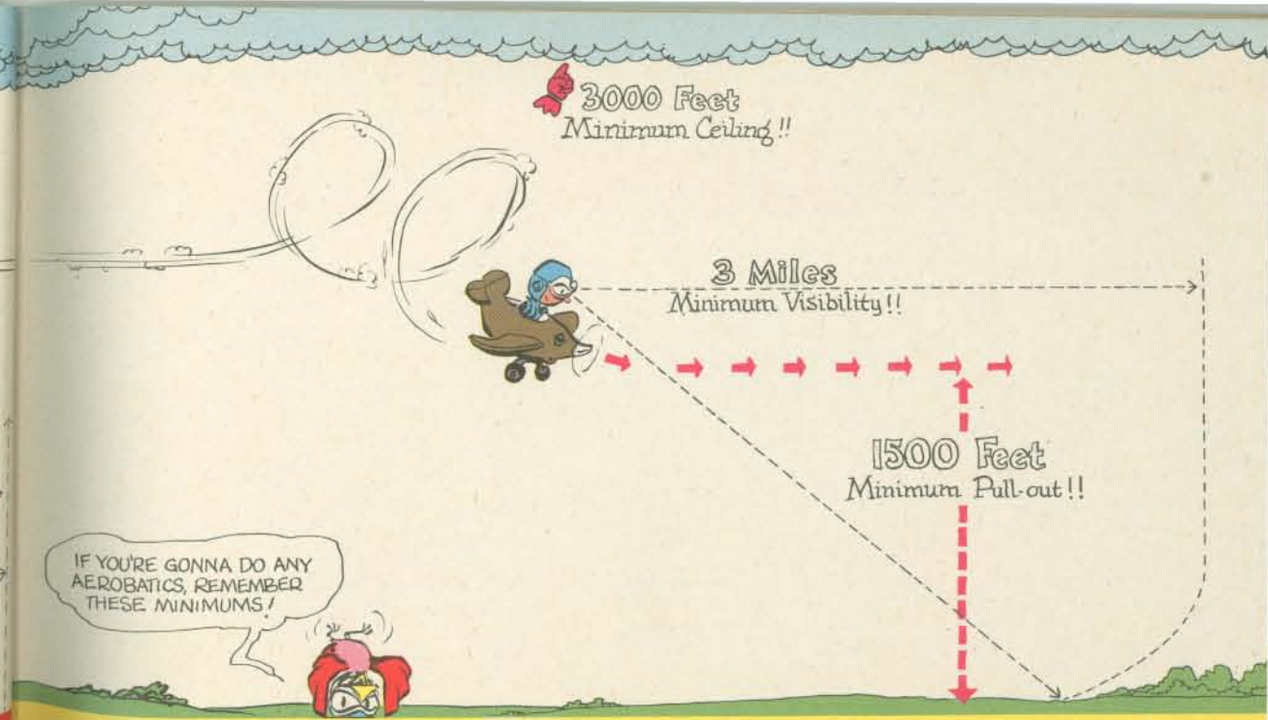
Obviously, he didn't!



IN FOG OR BAD WEATHER

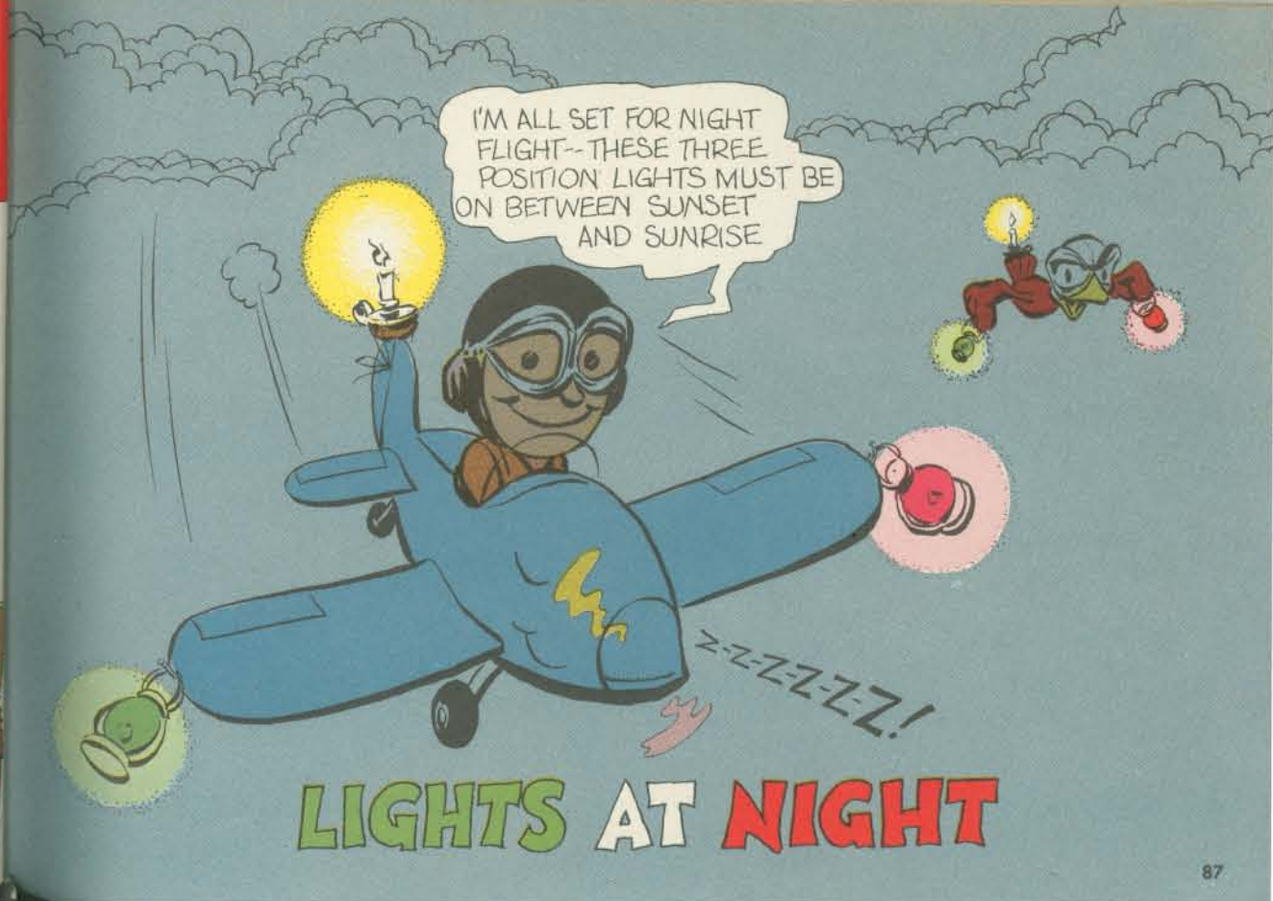


NO ACROBATICS OVER HERE



ACROBATIC *Weather Minimums*

LOOK OUT BELOW!!



LIGHTS AT NIGHT

DISTRESS SIGNALS

TEST YOUR KNOWLEDGE

YOU'VE BEEN THROUGH THIS BOOKLET ONCE. Now study it again. Each time you look at a page you'll find something new that escaped your attention before. When you are satisfied that you have mastered "I've Got Wings," then try your hand at the two quizzes on the following pages.

There are twenty questions in each quiz. Each question is followed by the number of the page containing the correct answer. The correct answers are also listed on page 92.

Each question correctly answered is worth 5 points. A score of 100 is perfect. Good going! Ninety is good. Eighty . . . you're getting wobbly. A good pilot knows all the answers. Dig in. Your wings are worth a lot of work and study.

QUIZ NUMBER 1

True	False	
___	___	1. A flashing red light-gun signal means "Taxi back to the hangar." (p. 8)
___	___	2. I will usually circle the airport to the right. (p. 15)
___	___	3. An air vehicle that can control itself the most gives way to the one that can control its movements the least. (p. 22-23)
___	___	4. Eight hundred feet is the minimum altitude over cities, crowds, etc. (p. 28)
___	___	5. I must alter my course to pass 500 feet or more to the right of overtaken plane. (p. 24)
___	___	6. When I am in the center of the beam I hear "Dahhh." (p. 38)
___	___	7. Heading north I fly at an even altitude. (p. 41)
___	___	8. I need not keep tuned to control tower after take-off. (p. 21)
___	___	9. Ceiling is the distance from the top of the clouds to the ground. (p. 50)
___	___	10. When flying above 1,000 feet, day or night, I must be at least 500 feet below the ceiling and have 3 miles or more visibility. (p. 53)
___	___	11. CFR over open country I must not fly any closer than 500 feet to the ground, mountains, or the ceiling. (p. 55)
___	___	12. On instrument flights I must stay at least 500 feet above hills, mountains or water, except for take-offs and landings. (p. 74)
___	___	13. If my radio goes bad I have to descend to where I can fly CFR or land at the first contact airport. (p. 78)
___	___	14. You need a 1,000 foot ceiling and 2 miles forward visibility to fly in a control zone. (p. 17)
___	___	15. I pick the runway in line with the wind-marker and land with the wind. (p. 18-19)
___	___	16. When two aircraft approach head-on, they give way to the right to pass each other with 500 feet between them. (p. 26)
___	___	17. The plane approaching from the right has the right of way. (p. 25)
___	___	18. The sound of the A signal is "Dit-Dahhh." (p. 38)
___	___	19. I can fly on either side of an "on course" signal on an airway. (p. 39)
___	___	20. There are four kinds of airways with different priorities and their colors are green, amber, red, and blue. (p. 34)

QUIZ NUMBER 2

True	False	
___	___	1. I can change my flight plan en route by notifying an A.T.C. center through the nearest communication station. (p. 46)
___	___	2. An airplane has number 3 right-of-way in the air. (p. 22)
___	___	3. Power lines, bridges, oil wells, rivers, and race tracks are good check points. (p. 57)
___	___	4. I stay 2,000 feet horizontally from clouds when flying CFR. (p. 60)
___	___	5. If the ceiling is under 500 feet or the visibility is less than one mile, I can't take off on instruments. (p. 72)
___	___	6. For an instrument flight, a 600-foot ceiling and 3 miles forward visibility at destination are satisfactory minimums. (p. 73)
___	___	7. No acrobatics when flying over control zones, cities, crowds, restricted areas, or civil airways. (p. 84)
___	___	8. I may turn after clearing the airport boundary when I have reached 400 feet altitude. (p. 14)
___	___	9. To have the right of way in landing I start my approach at least 1,000 feet from the airport boundary. (p. 20)

True	False	
___	___	10. Emergency landings have the right of way when a plane is on fire. (p. 27)
___	___	11. The sound of the N signal is "Dahhh-dit." (p. 38)
___	___	12. Heading east I fly at an odd altitude. (p. 41)
___	___	13. In contact flight the pilot controls his flight by reference to the ground or water. (p. 49)
___	___	14. At night, when flying outside a control zone and below 1,000 feet, I must have a minimum visibility of 4 miles. (p. 53)
___	___	15. Both land planes and seaplanes are allowed to fly over water at an altitude of 300 feet. (p. 54)
___	___	16. In contact flight it isn't important to pick any particular cruising altitude. (p. 58)
___	___	17. When flying contact flight rules I must turn back or go around clouds. (p. 63)

True	False	
___	___	18. An alternate airport with a ceiling of broken clouds at 1,500 feet must have 3 miles forward visibility. (p. 80)
___	___	19. When the weather closes in ahead of me or at my destination—the smartest maneuver I can make is an 180-degree turn (about face). (p. 81)
___	___	20. I can do acrobatics if I pull out at least 1,000 feet from the ground. (p. 85)

ANSWERS

	Quiz 1	Quiz 2		Quiz 1	Quiz 2
1.	T	T	10.	T	F
2.	F	F	11.	T	T
3.	T	T	12.	F	T
4.	F	T	13.	T	T
5.	T	T	14.	F	F
6.	T	F	15.	F	F
7.	F	T	16.	T	F
8.	F	F	17.	T	T
9.	F	T	18.	T	T
			19.	F	T
			20.	T	F

"SLANGUAGE"

Ace—a combat pilot with five or more victories.

Blanket Drill—sleeping.

Blind Flying—a date with a girl you've never seen.

Bumps—the effect of updrafts and downdrafts encountered in flight.

Bunk Flying—talking aviation in quarters.

Buzzing—flying dangerously low over people or property on the ground; (taboo).

Caterpillar Club—a jump for life in a parachute qualifies for membership.

Chinese Landing—one wing low.

Clinker—a poorly executed maneuver.

Conservatory—a power-operated, glass-enclosed machine gun turret.

Contact—a warning called out by the pilot to inform the mechanic the ignition switch is on.

Cracking Good Show—highest possible praise of a performance.

Dead Stick—gliding plane, after the engine has conked.

Dogfight—combat between two planes.

Drive It In The Hangar—stop talking aviation.

Dummer—a bonehead act.

Dust Bin—underside rear gun turret in an enemy aircraft.

Eggs.—bombs.

Fat Friends—balloons.

Flak—anti-aircraft fire.

Flying The Iron Beam or Iron Compass—pilot flying along railroad.

Flying Pig—aerial torpedo.

Flying the Gauges—instrument flying.

Gain Some Altitude—come to a more erect standing or sitting position. Used to correct the "civilian slouch" in new cadets.

Geese—enemy bomber formation.

Get Eager—do your best; strive to the utmost.

Give It The Gun—advance the throttle to accelerate engine speed.

Glasshouse—power operated turret.

Go Into A Tailspin—get mad.

Going Upstairs—gaining altitude; climbing.

Good Show—a commendable action.

Grab A Brace—come to a position of super attention; usually directed at new cadets.

Hangar Pilot—mechanic who talks a great flight.

Hedge Hopping—low flying.

He's In A Flat Spin—a bit touched.

Hit The Deck—when an aviator lands.

Hitting The Silk—to make a parachute jump.

Hot Crate—a speedy plane.

H. P.—a hot pilot.

Jinking—dodging anti-aircraft fire.

Lame Duck—damaged plane.

Laying The Eggs—dropping bombs.

Life Saver—a parachute.

Mustard—smart pilot.

Office—the pilot's cockpit, usually in a large airplane.

Onions—flaring anti-aircraft shells.

Overshoot—to glide beyond the landing field before landing.

Pea Shooters—the high-powered planes of the Air Forces.

Pulpit—the cockpit.

Ready Room—the room where pilots on duty assemble, ready for instant call to action.

Reef Back—pull back the stick in flying a plane.

Roll Up Your Flaps—stop talking.

Shoot Landings—to acquire practice in landing a plane.

Short Snorter—a member of an unofficial flyers' club, each member of which carries a one dollar bill autographed by fellow short snorters. Any members being unable to show the bill upon request of a fellow member, must forfeit a comparable bill or note to each short snorter present.

Shot Down In Flames—jilted by a girl friend.

Show—action in the air.

Slap On The Coal—open the throttle to give a plane more gas.

Solo—flying alone; hence doing anything else without company.

Spin Off—take a nap; or go to bed.

Spit Curl—a side slip in a plane.

Sugar Report—a letter to or from a girl friend.

Tear Off A Strip—to give someone a bawling out.

Tin Fish—an aerial torpedo.

Woofing—the telling of tall tales.

Hey! wait for me!